Gravatt, Dan

From:

Hooper, Charles A.

Sent:

Wednesday, July 03, 2013 10:11 AM

To:

Gravatt, Dan

Subject:

FW: MO 2013 Monitoring Network Plan and Comments

Attachments:

2013 Monitoring Network Plan_5_23_13 (includes index).pdf; 2013 Monitoring Network Plan-CoverLetter.pdf; FW: Air Quality Commission recommendations to Mo Secretary of State -

Comment; 2013 Monitoring Network Plan comments-6.25.2013.pdf

Chuck Hooper, CHP **Radiation Safety Officer EPA Region 7** 11201 Renner Boulevard Lenexa, Kansas 66219 (913) 551-7271 office Hooper.CharlesA@epa.gov

From: Jay, Michael

Sent: Monday, July 01, 2013 8:51 AM

To: Hooper, Charles A.

Subject: FW: MO 2013 Monitoring Network Plan and Comments

Chuck,

Can you review the comment regarding Westlake and send on to the Westlake team as an FYI. If u have questions about this let me know.

From: Bhesania, Amy

Sent: Monday, July 01, 2013 8:42 AM To: Jay, Michael; Grooms, Leland

Subject: MO 2013 Monitoring Network Plan and Comments

FYI – Missouri has submitted their official plan to EPA along with comments received.

Note, one comment is in regards to Bridgeton/Westlake. Mike, I don't know if you need to address this further given the sensitivity of the subject - but thought I'd mention it.

Lee, I know we will follow the normal plan for responding to the submittal. So we will just await your official review/comment.

Thx.

-ab

From: Hall, Stephen [mailto:stephen.hall@dnr.mo.gov]

Sent: Friday, June 28, 2013 4:50 PM

0714



3,0

To: Bhesania, Amy

Cc: Nichols, Robert; Grooms, Leland; Moore, Kyra; Gilmore, David; Vit, Wendy; Martin, Jennifer

Subject: 2013 Monitoring Network Plan

Amy,

Please find attached the 2013 Monitoring Network Plan and the public comments that were received during the public inspection period. No changes to the plan have been made as a result of the public comments. The hard copy of this plan is being mailed to the EPA Regional Administrator. To save paper we are only distributing the electronic copies to you and Robert Nichols for your internal distribution. Let me know if you have any questions.

Stephen M. Hall Monitoring Unit Chief Air Pollution Control Program Missouri Department of Natural Resources 1659A E. Elm St. P.O. Box 176 Jefferson City, MO 65102-0176 Phone: 573-751-8406



June 25, 2013

Submitted Electronically

Missouri Department of Natural Resources Air Pollution Control Program Air Quality Section/Air Monitoring Unit P.O. Box 176 Jefferson City, MO 65102

Subject: Proposed Changes to 2013 Monitoring Network Plan

City Utilities of Springfield, Missouri would like to submit comments on the proposed changes to MDNR's 2013 Monitoring Network Plan. City Utilities is a municipally owned public utility providing electric, natural gas, water, transportation, and broadband services within the Springfield metropolitan area. CU serves approximately 110,000 electric customers, 83,000 natural gas customers, 80,000 drinking water customers, 1,500,000 annual public transit patrons, and 789 commercial broadband customers. CU owns and operates two coal-fired power plants and seven combustion turbine generators. Our total generating capacity is slightly over 1,100 Megawatts. CU owns and operates two drinking water treatment plants with a total capacity of 109 million gallons per day. Our primary water supply is derived from three surface impoundments and a riverbank intake. These are supplemented by groundwater from three deep wells and a perennial spring.

I. Summary of comments on the proposed Network Plan changes

- a. We support MDNR's decision to request discontinuation of the Wildwood industrial ambient SO₂ monitor located in the Springfield-Greene County area. The Plan retains two (2) monitors strategically located to assess SO₂ concentrations in the surrounding community protective of the National Ambient Air Quality Standards (NAAQS).
- b. We agree with MDNR this approach will reduce redundancy and provide more efficient and productive use of limited manpower and financial resources.

II. Specific issues:

- a. Discontinuation of the Wildwood industrial ambient SO₂ monitoring site is appropriate and supported by monitored data.
 - Since 2003, design values at Wildwood are consistently below the James River-South monitoring site, located approximately 289 meters to the south.

- ii. Except for the most recent three year period, Figure 2.1a shows a minimum 6 ppb difference between the monitor design values at Wildwood versus James River-South sites.
- iii. The 2006-2008 Wildwood design concentration is 25 ppb less than the James River-South concentration.
- iv. Between 2008 and 2010, Wildwood reported one concentration out of the 300 highest hourly values greater than the highest monitored concentration recorded from both locations.
- v. Since 2012, neither the Wildwood nor James River-South monitoring sites recorded a single exceedance of the 1-hour SO₂ standard.
- vi. Reported first quarter 2013 ambient concentrations are 39% below the 75 ppb standard.

b. Redundancy maintains monitoring network integrity and shifts resources to areas of greater need.

- i. The South Charleston (54) and James River-South (68) ambient monitoring locations will continue to be maintained and quality assured for the foreseeable future.
- ii. Resources can be diverted to other monitoring locations and used to perform quarterly assessments at each location. Confidence in measurement results leads to increased monitoring network integrity.

III. Further Contacts

City Utilities appreciates the opportunity to provide comments to the Monitoring Network Plan revisions in support of MDNR's efforts. If additional information or clarification is required, please do not hesitate to contact us by telephone at 417.831.8916 or electronic mail at daniel.hedrick@cityutilities.net.

Respectfully,

Daniel S. Hedrick

List & Sing ()

Manager - Environmental Compliance

cc. Kyra Moore – Mo. Air Pollution Control Program
Keith Smith

Gravatt, Dan

Subject:

FW: Air Quality Commission recommendations to Mo Secretary of State - Comment

----Original Message----

From: Agnes Uhls [mailto:agscat@wavecomputers.net]

Sent: Friday, June 21, 2013 11:26 AM

To: Lovejoy, Victoria

Subject: Air Quality Commission recommendations to Mo Secretary of State - Comment

You are requesting public comment to the new rules proposed to comply with EPA standards for air quality oversight and law in Missouri.

My concern is that RADIOACTIVE materials in air be monitored.

As you are aware, in St. Louis the Bridgeton/West Lake Landfill has been the subject of public concern regarding emissions of Radon, and radioactive materials, as well as the toxins currently being monitored. This has arisen in the public's interest due to a "smoldering" fire in waste very near the documented site of radioactive uranium mill tailings and contaminated dumping of processing equipment, trucks for transport, etc. As DNR knows, this dumping was illegal and soon thereafter to DNR's credit sampling was done by NRC which revealed readings of which were never recorded again. However, in years hence the EPA has taken over this site and has allowed the site to sit as it emits radon gas into the metro area, beta and alpha and gamma radiation on particles into the air, accentuated by fire.

Without the proper documentation, we only have conservative measurements of what is in West Lake, and where all it has dispersed during ongoing operations at the Landfill.

My concern is that these regulations, the nature of which I am not completely clear, contain radiation monitoring of Missouri's Cold War era and current nuclear power plant deposition sites for radioactive materials. Since a Federal agency is allowed access to Missouri law and enforcement, I think it responsible of DNR to insist that the federal radioactive waste be monitored for air sampling to maintain Missouri's historical data in the event that an emergency arises.

Thank you for the opportunity to comment on the new regulation changes in Air Quality monitoring.

Agnes C. Uhls 12900 Route RA Rolla, MO 65401-7865 Jeremiah W. (Jav) Nixon. Governor • Sara Parker Pauley, Director

STATE OF MISSOURI OF NATURAL RESOURCES

www.dnr.mo.gov

JUN 2 8 2013 Mr. Karl Brooks Regional Administrator U. S. Environmental Protection Agency 11201 Renner Boulevard Lenexa, KS 66219

Dear Mr. Brooks:

Please find enclosed the 2013 Monitoring Network Plan. The 2013 Monitoring Network Plan fulfills the requirements of 40 CFR 58.10 (a) (1) for annual submittal of a plan to provide information on current SLAMS, other ambient air monitoring and any proposed network changes for the upcoming year. The plan is required to be made available for public inspection at least 30 days prior to submission to the Environmental Protection Agency (EPA) and accordingly, was made available on our website on May 24, 2013.

Public comments that were received as part of the 30-day public inspection period of this plan were from one individual submitting comments through the Missouri Department of Natural Resource's email address cleanair@dnr.mo.gov and one comment letter from a public utility.

Hard copies of these comments are enclosed and we will make these comments available to the EPA electronically. No changes to the 2013 Monitoring Network Plan have been made based on any comments received. However, the Department may respond, in writing, to the comments and we will copy EPA on any response.

If you have questions regarding this letter or the enclosures, please contact Mr. Stephen Hall with the Department's Air Pollution Control Program at P.O. Box 176, Jefferson City, MO 65102 or by telephone at (573) 751-8406. Thank you.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Director

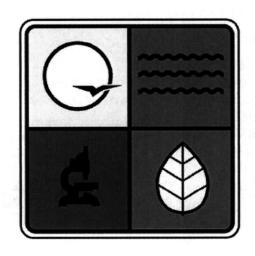
KLM:shj

Enclosures

Mr. Joshua Tapp, U.S. EPA Region VII c:

Ms. Amy Bhesania, U.S. EPA Region VII

Mr. Roberts Nichols, U.S. EPA Region VII



Missouri Department of Natural Resources Air Pollution Control Program 2013 Monitoring Network Plan

May 23, 2013

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SUMMARY OF PROPOSED CHANGES

Missouri's 2013 Monitoring Network Plan proposes to address:

- One new near-roadway nitrogen dioxide (NO₂) monitoring site in St. Louis,
- One new near-roadway nitrogen dioxide (NO₂) monitoring site in Kansas City,
- Planning for the second near-roadway NO₂ site in St. Louis,
- Discontinuation request for the Wildwood Lane industrial SO₂ monitor.

As part of the condition of receiving one-time section 103 Grant funds to implement some of the NO₂ near-roadway monitoring network the department will conduct special purpose PM_{2.5}, PM_{10LC}, PM_{10-2.5}, PM_{2.5} black carbon, meteorological, and carbon monoxide (CO) monitoring at the Forest Park and Blue Ridge I-70 near-roadway NO₂ sites.

How to Make Public Comments Concerning this Plan

Comments concerning this Monitoring Network Plan may be sent electronically to: <u>cleanair@dnr.mo.gov</u> or in writing to the following address and must be received by close of business June 25, 2013:

Missouri Department of Natural Resources Air Pollution Control Program Air Quality Analysis Section/Air Monitoring Unit P.O. Box 176 Jefferson City, MO 65102

INTRODUCTION

The Missouri Department of Natural Resources operates an extensive network of ambient air monitors to comply with the Clean Air Act and its amendments. The Ambient Air Quality Monitoring Network for the State of Missouri consists of State and Local Air Monitoring Stations (SLAMS), Special Purpose Monitoring Stations (SPMS), and National Core (NCore) monitoring consistent with requirements in federal regulation 40 CFR 58.10.

40 CFR 58.10 requires states submit to EPA an annual monitoring network plan including any proposed network changes. With regard to state and local air monitoring station changes, approval by the Environmental Protection Agency Regional Administrator is required.

The plan must contain the following information for each monitoring station in the network:

- 1. The Air Quality System site identification number for existing stations.
- 2. The location, including the street address and geographical coordinates, for each monitoring station.
- 3. The sampling and analysis method used for each measured parameter.
- 4. The operating schedule for each monitor.
- 5. Any proposal to remove or move a monitoring station within a period of eighteen months following the plan submittal.
- 6. The monitoring objective and spatial scale of representativeness for each monitor.
- 7. The identification of any sites that are or are not suitable for comparison against the annual PM_{2.5} National Ambient Air Quality Standard (NAAQS).
- 8. The metropolitan statistical area, core-based statistical area, combined statistical area or other area represented by the monitor.

Network Design

Federal regulation (40 CFR Part 58) establishes the design criteria for the ambient air monitoring network. The network is designed to meet three general objectives:

- Provide air pollution data to the public in a timely manner.
- Support compliance with ambient air quality standards and emissions strategy development.
- Support air pollution research studies.

Specific objectives for the monitoring sites are to determine the highest pollution concentrations in an area, to measure typical concentrations in areas of high population density, to determine the impact of significant sources or source categories, to determine general background levels and to determine the extent of regional pollutant transport among populated areas. Minimum site requirements are provided for ozone and particulate matter based on Core Based Statistical Area (CBSA) population.

Appendix E to Part 58 establishes the specific requirements for monitor/probe siting to ensure the ambient data represents the stated objectives and spatial scale. The requirements are

pollutant/scale specific and involve horizontal/vertical placement. Additional details concerning the sites may be found in Appendix 1.

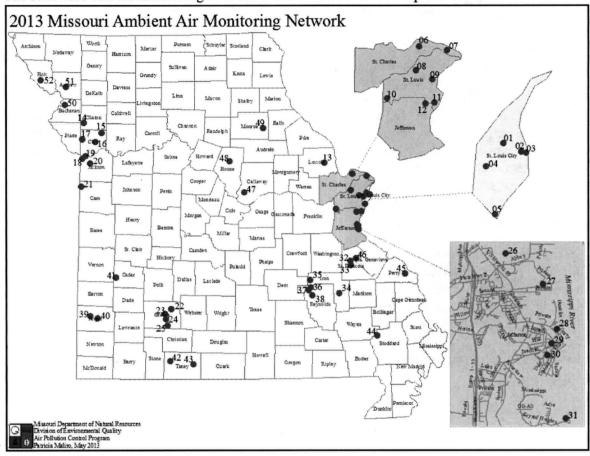
There is only one PM_{2.5} monitor in Missouri that is not applicable for comparison to the annual NAAQS. The Branch Street site is a middle-scale site focused on a group of sources in the industrial riverfront area and is not representative of neighborhood or larger spatial scale for PM_{2.5} monitoring. The PM_{2.5} monitors being deployed collocated with the near-roadway NO₂ monitors will be micro-scale monitors, but EPA has indicated in 40 CFR 58 Appendix D, 4.7.1(c)(2) that "...In many situations, monitoring sites that are representative of microscale or middle-scale impacts are not unique and are representative of many similar situations. This can occur along traffic corridors or other locations in a residential district. In this case, one location is representative of a number of small scale sites and is appropriate for evaluation of long-term or chronic effects." these monitors may be considered by EPA to be representative of larger areas near roadways and comparable to the annual PM_{2.5} NAAQS consistent with 40 CFR 58.30.

Unanticipated Network Modifications

Changes to the monitoring network may occur outside the annual monitoring network planning process due to unforeseen circumstances resulting from severe weather, natural events, changes in property ownership, or other situations that occur after the monitoring plan has been posted for public inspection and approved by the EPA Regional Administrator. Any changes to the network that result due to conditions outside the state's logistical control and not included in the current monitoring network plan will be communicated in writing to EPA Region VII staff and identified in the subsequent annual monitoring network plan.

CURRENT AMBIENT AIR MONITORING NETWORK

The statewide current monitoring network is shown below in the map and table.



Legend					
St. Louis Area		Springfield Are			Area Conf
	Parameter Monitored		e O3, WS, WD, IT.	49. MTSP	
1. Margaretta	PM ₁₀ , SO ₂ , NO ₂ , NO ₃ , IT	23. Hittorest H.S		50. St Jos	
02. Bieir St.	PM.o. PM.o.c. PM.s. PM.s (Spec)	24. MSU	PM ₁₀ , PM ₁₀ , PM ₂ s, PMCoarse,	- ,	Station PMCoarse, OT, IT, BP, R
	PMCoarse, O ₂ , SO ₂ , Pb, NO ₂ ,		OT, IT	51. Savar	
	NOy, NOx, CO, BC, Carbonyts,	25. South	50 ₂ , IT.	52. Forest	
	Hexa Chromium, PAHs, VOCs, WS, WD, OT, IT, SR, EP,	Charleston		Exide	Levee
	RH.	Herculaneum A		<u>Acronym</u>	
03. Branch St.	PM-c, PM _{10+C} , PM ₂₃ , PMCoarse.	26. Pevely N.	Pb.	PM ₁₀	Particulate Matter (Diameter size
	WS, WD, OT, IT, BP, RH.	27. Pevely	Pb.		≤10 micrometer).
04. Forest Park	PM _{OLC} , PM ₂ s, PMCoarse, NO ₂ ,	28. Sheman	Pb.	PM ₁₀ CC	PM ₁₀ Local Condition.
	NO, NOx, CO, BC, WS, WD, OT,	29. Dunidin	Pb.	PM,	Particulate Matter (Demeter size
	IT, SR, BP, RH, Prec.	H. School			≤2.5 morometer).
05. S. Broadway	PM _{10-L0} , PM _{2.5} , PMCoarse, OT, IT	30. Mott St.	SO ₂ , Pb, WS, WD, IT.	PMCoarse	e Particulate Matter (Diameter size
	BP, RH.	31. Ursuline N.	Pb.	_	between 2.5 and 10 micrometer).
06. Onohard Farm				Spec	Speciation.
07. West Alton	O ₃ , WS, WD, OT, IT, SR.	Old Lead Belt /		ಽ೦₂	Sulfur Dioxide.
08. Maryland	O ₃ , WS, WD, CT, IT.	32. Park Hills	Pb.	NO ₂	Nitrogen Dioxide.
Heights		33. St. Joe	Pb.	NO	Nitro Oxide.
09. Ledue	PM:ouc, PM; s, PMCoarse,	State Park		NOy	Reactive Oxides of Nitrogen.
	WS, WD, OT, IT, BP, RH			NOx	Oxdes of Nitrogen.
10. Pacific	O ₃ , WS, WD, OT, IT.	<u>New Lead Belt</u>		co	Carbon Monoxide.
11, Oakville	PM ₁₀ , WS, WD, IT.	34. Glover	Pb.	₽b	Lead.
12. Amoid	PM ₁₀₋₀ , PM _{2.5} , PM _{2.5} (Spec)	35. Buick NE	Pb.	BC	Black Carbon.
West	PMCoarse, O ₂ , WS, WD, OT, IT,	36. Oates	Pb.	Prec	Precipitation.
	BP, RH.	37. Bill's Creek	Pb.	ws	Wind Speed.
13. Foley	O ₂ , WS, WD, IT.	38. Fletcher	Pb.	WD	Wind Direction.
				OT	Outside Temperature.
Kansas City Are.	<u> </u>	OutState Area		IT	Indoor Temperature.
14. Trimble	Oz, WS, WD, IT.	39. Alba	O ₁ , IT.	SR	Solar Radiation.
15. Watkins Mill	O ₃ , IT.	40. Carthage	PM ₁₀ , WS, WD, IT.	8P	Barometer Pressure.
16. Liberty	PM _{101.5} , PM _{2.5} , PM _{2.5} (Spec)	41. El Dorado	PM10.5, PM2 s, PMCoarse, O2,	RH	Relative Humidity.
•	PMCoarse, Oz, WS, WD, OT, IT,	Springs	WS, WD, OT, IT, BP, RH	IMPROVE	Interagency Monitoring of.
	SR, BP, RH.	· -	IMPROVE (Protocol).		PROtected Visual Environments
17. Rock Creek	O1, WS, WD, IT.	42. Branson	O ₃ , WS, WD, IT.	H.S.	High School.
18. Front St.	PM ₁₀ .	43. Hercules	PM _{2.5} (Spec) - IMPROVE.	MSU	Missouri State University.
19. Troost	PM ₁₀ , PM ₂₅ , SO ₂ , NO ₂ , NO, NOx	Glades		MTSP	Mark Twein State Park.
	OT, IT.	44. Mingo	PM _{c 5} (Spec) - IMPROVE.	S.	South.
20. Blue Ridge,	PM-ps.c. PM-s, PMCoarse, NOs,	45. Farrar	Oz, WS, WD, IT.	N.	North.
i-70	NO, NOx, CO, BC, WS, WD, OT,		PM _{2.5} (Spec) O ₂ , WS, WD, IT.		
•	IT, SR, BP, RH, Prec.		Oz, WS, WD, IT.		
21. Richards	PM _{104,0} , PM _{2.5} , PMCoarse, C ₃ ,	Field	-g,,,,,		
Gebaur-S.	WS, WD, OT, IT, BP, RH.	48. Finger Lake	sO. IT		

Notes:

- a. The acronym PM_{10-LC} is also commonly referred to as PM_{10c} when collected with a low volume sampler consistent with appendix O to Part 50. PM_{10-LC} means particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers where the concentration is reported at local conditions of ambient temperature and barometric pressure. PM_{10-LC} is used in this document to describe any continuous or filter based PM₁₀ low volume measurement concentration that is reported at local conditions of ambient temperature and barometric pressure.
- b. PM₁₀ means particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers where the concentration is adjusted to EPA reference conditions of ambient temperature and barometric pressure (25 °C and 760 millimeters of mercury or STP).
- c. PM coarse is also frequently referred to as PM_{10-2.5}.

PROPOSED CHANGES TO THE NETWORK

1. Lead Monitoring Network

Changes to airborne lead monitoring requirements were published in the Federal Register: December 27, 2010 (Volume 75, Number 247). These new rules require a plan for monitoring lead sources emitting 0.50 tons per year or more, revised from the previous requirement for monitoring sources emitting one ton per year or more. Airports are specifically exempted from these requirements except for a special study being conducted at specific airports, none of which are in Missouri.

Department staff reviewed the 2011 National Emissions Inventory and did not identify any additional lead sources emitting greater than 0.50 tons of lead per year for which ambient air monitoring is not currently being conducted or where EPA has not already granted a modeling waiver consistent with 40 CFR 58 Appendix D, 4.5 (a) (ii).

1.1 Forest City, Exide monitoring site

The 2013 Monitoring Network Plan identifies the resumption of lead TSP monitoring at a location near the Exide Secondary Lead Smelter in Forest City MO. The monitoring method initially deployed, as described in the 2012 Monitoring network Plan, utilized the low volume PM_{10c} sampler and Pb-PM₁₀ analysis performed by X-ray Fluorescence (XRF) following specifications and procedures in 40 CFR part 50 Appendix Q. Since the deployment of the Pb-PM₁₀ FRM monitor in March of 2012, three month rolling averages of airborne lead were monitored at concentrations greater than 0.15 μ g/m³. Therefore, the department has deployed a Pb-TSP sampler for a subsequent attainment determination.

Department and EPA Region VII monitoring unit staff visited the site on December 14, 2011 and confirmed that the site meets the applicable middle scale lead monitoring criteria and the monitoring probe and monitoring path siting criteria of Appendix D and E to Part 58 respectively. Figure 1.1.1 identifies the monitoring site location and aerial view of the facility and surrounding area.

Figure 1.1.1 Forest City Lead Monitoring Site



- Forest City- Levee AQS# 29-087-0008 (formerly known as Schuylkill Metals-West)
- 2. Property boundary (source MDNR HWP/RCRA/Operating Facilities Unit)
- ★ Facility main entrance

2. Sulfur Dioxide Monitoring Network

On June 2, 2010, the US EPA revised the primary sulfur dioxide standard by establishing a 1hour standard at the level of 75 parts per billion, or ppb. The EPA revoked the two previous primary standards of 140 ppb evaluated over 24-hrs and 30 ppb evaluated over an entire year. The 2011 Monitoring Network Plan identifies the minimum network monitoring required by the Population Weighted Emissions Index (PWEI).

NAAQS compliance SO₂ monitoring has been conducted by the City Utilities of Springfield at the Wildwood and James River-South SO₂ monitoring Sites in Greene County (sites number 7 and 8 in the SO₂ monitoring network map). Given recent changes by EPA with respect to the way in which the SO₂ NAAOS will be implemented, the state intends to propose using a modeling/monitoring approach to implementing the SO₂ NAAQS. With this approach the Wildwood monitoring location AOS# 29-77-0040 is redundant, and NAAOS compliance monitoring can be satisfied with the James River and South Charleston monitoring sites.

50 CFR Part 58.14 identifies conditions under which SLAMS or NAAQS compliance monitors may be approved by the EPA Regional Administrator to be discontinued. The SO₂ NAAOS is based on a three year average the 99th percentile form consistent with Appendix T to Part 50.

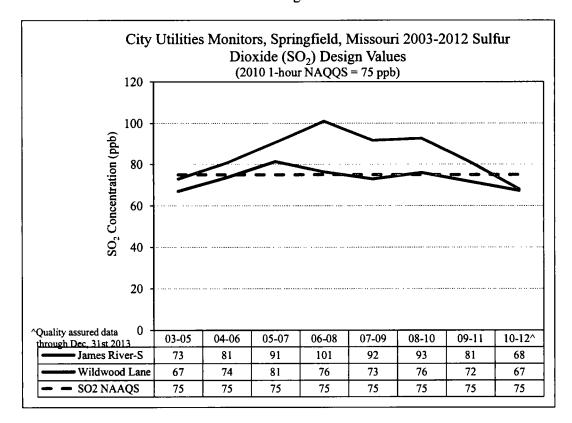
Considerations for Site Removal:

- The site is not currently in violation of the SO₂ NAAQS.
- The site has not monitored a violation of the SO₂ NAAOS since 2008-2010.
- The site is not required in any SO₂ Attainment or Maintenance Plan.
- Another SO₂ site, James River AOS# 29-77-0037, is monitoring a higher SO₂ design value and is located in the same county approximately 289 meters from the Wildwood site. (Figures 2.1a, 2.1b, and 2.1c)
- The minimum monitoring requirements cited in 40 CFR Part 58 Appendix D for SO₂ monitoring in the Springfield CBSA is zero (0) monitors consistent with the PWEI calculation. Therefore, the remaining two SO₂ monitors exceed the minimum monitoring requirements in this CBSA after the Wildwood site is discontinued.

Therefore, the department requests that EPA Region VII approve discontinuing the SO₂ monitoring at Wildwood monitoring location AQS# 29-77-0040.

¹ http://dnr.mo.gov/env/apcp/docs/2011monitoringnetwork.pdf

Figure 2.1a



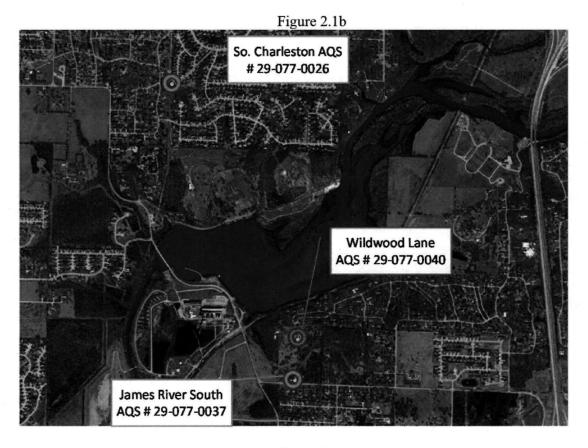
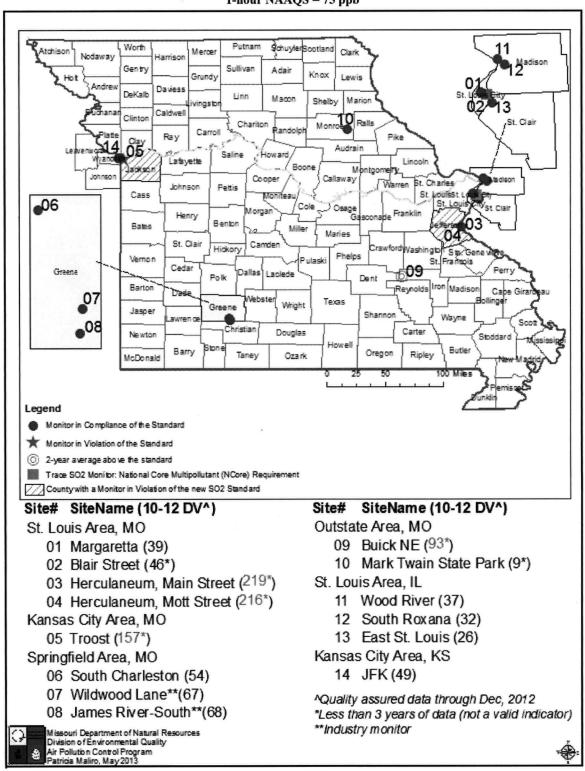


Figure 2.1c



Missouri Statewide and the Surrounding SO₂ Monitoring Network, 2013 1-hour NAAQS = 75 ppb



3. National Air Toxics Trends Stations (NATTS), and Other Non-Criteria Pollutant Special Purpose Monitoring

3.1 National Air Toxics Trends Stations Monitoring

In addition the regular NATTS monitoring at Blair St., additional NATTS grant funds are being utilized to support collocating a near real time PM₁₀ Metals Monitor (XactTM 620) at the NATTS site to increase understanding of the temporal variation of metals in the ambient air (particularly arsenic and lead) routinely measured by the time integrated 24-hr filter based PM₁₀ sampling at this site. This project is useful in supplementing ambient air monitoring data objectives addressed in EPA's multi pollutant strategy. Continued availability of funding will allow the PM₁₀ Metals Monitor (XactTM 620) to continue for 2014.

3.2 Organic and Elemental Carbon Monitor Evaluation Project

The EPA Office of Air Quality Planning and Standards contacted the EPA Regional Office and the state of Missouri about participating in a three year monitor evaluation study scheduled to begin in the summer/fall of 2011. EPA would provides the monitor and certain related components in exchange for the state providing in-kind staff time to operate and report data to the EPA Air Quality System (AQS) from the instrument. The location for the study is the Blair St. Site, since the site is currently part of the NCore, NATTS and Chemical Speciation monitoring programs. The data from the Blair St. site is used extensively in various health and air pollution studies. Since elemental and organic carbon account for a significant amount of the particulate matter mass measured at this site at various times, understanding the temporal variation in carbon species relative to the 24-hr integrated filter based carbon data will be useful in understanding the local source contributions and diurnal variation in the carbon concentrations. This project will be useful in supplementing ambient air monitoring data objectives addressed in EPA's multi pollutant strategy.

Currently, the preliminary near real-time monitoring data for this monitor is being reported each hour to the State of Missouri web page. EPA OAQPS and MDNR staff are working on the data format coding necessary to facilitate AQS and AirNow data reporting.

3.3 Black Carbon

As part of the condition of receiving one time section 103 Grant funds to implement certain sites for the near-roadway monitoring network, the department will conduct special purpose PM_{2.5} Black Carbon monitoring at the Forest Park near roadway NO₂ site using an Aethalometer. Black Carbon monitoring at the near roadway sites will continue for 2014 pending available funding.

4. PM_{2.5} Monitoring Network

The current PM_{2.5} 103 Grant Work plan (April 2013 – March 2014) includes purchasing new TEOM 1405-DF continuous PM_{2.5} monitors. One new monitor will be used to satisfy the PM_{2.5} monitoring requirements at the Kansas City near-roadway monitoring site. The other monitors will be used as network spares to avoid equipment down time during routine servicing or unexpected malfunctions.

The PM_{10c} (local conditions of ambient temperature and barometric pressure) channel and $PM_{10-2.5}$) channel from the TEOM-1405-DF will be reported for each site as a special purpose monitor since they are available simultaneously with the $PM_{2.5}$ FEM channel. The TEOM-1405-DF is not currently designated as a Federal Equivalent Method (FEM) for these parameters. This will provide more temporal and special coverage for the various fractions of particulate matter at the $PM_{2.5}$ monitoring sites in the network. The manufacturer of the TEOM-1405-DF is in the process of obtaining a Federal Equivalent Method designation for both the PM_{10} and PM_{coarse} channels on the TEOM-1405-DF monitor.

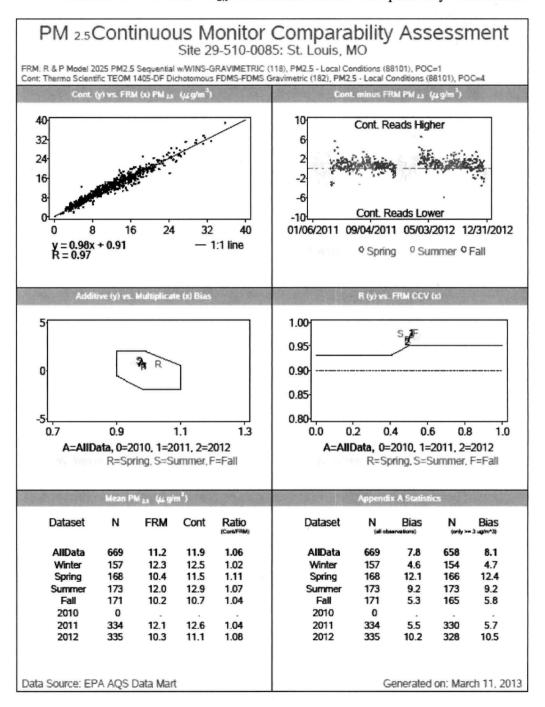
Network PM_{2.5} collocated FRM requirements are satisfied at Blair St. NCore site in St. Louis and the Troost site in Kansas City. The following page reports the FRM/FEM Comparability statistics (Class III performance criteria of 40 CFR Part 53) for two years of the TEOM-1405-DF (EQPM-0609-182) operating at the Blair St. St. Louis NCore site. The additive and multiplicative bias meets the Class III performance criteria of 40 CFR Part 53.

Although the FEM monitor at Blair St. is biased higher than the FRM, the FRM is designated as the primary reporting monitor for the site to meet $PM_{10-2.5}$ NCore monitoring requirements. The Blair St. site is the $PM_{2.5}$ design value site for the Missouri side of the St. Louis CBSA area and the positive FEM bias at the Blair St. site is unlikely to affect the design value.

Beginning in 2013 the FRM PM_{2.5} samplers use the Very Sharp Cut Cyclone VSCCTM particle size separator. This FRM configuration will match the VSCCTM configuration of the Performance Evaluation Program (PEP) samplers used to independently audit the State's FRM PM_{2.5} sampling network. The VSCCTM separators are less costly to maintain and this change may help improve PEP audit bias trends.

Class III Performance Criteria of 40 CFR Part 53 Blair St. St. Louis Air Quality System # 29-510-0085 TEOM-1405-DF, EQPM-0609-182 (PM_{2.5}) January 6, 2011 through December 31, 2012

Source: EPA AirData PM_{2.5} Continuous Monitor Comparability Assessments



REVISED PM_{2.5} MONITORING NETWORK

Site	Schedule*	Туре	Agency	NAAQS
St. Louis				
1. Blair St.	1	FRM	ESP	24 hr & Annual, NCore PMcoarse
	6	Collocated	ESP	Doubles as PMcoarse collocated sampler
	3	Speciation	ESP	
	H	TEOM-1405-DF FEM	ESP	AQI, NCore PM10-2.5 continuous
2. Branch St.	Н	TEOM-1405-DF FEM	ESP	24 hr & AQI (Unique Middle Scale Monitor)
3. South Broadway	Н	TEOM-1405-DF FEM	ESP	24 hr & Annual/AQI
4. Ladue	H	TEOM-1405-DF FEM	ESP	24 hr & Annual/AQI
5. Amold West	3	Speciation	ESP	
	Н	TEOM-1405-DF FEM	ESP	24 hr & Annual/AQI
6. Forest Park (near-roadway)	Н	TEOM-1405-DF FEM	ESP	24 hr & Annual/AQI (Micro Scale Monitor)
Kansas City				
7. Liberty	3	Speciation	ESP	
	H	TEOM-1405-DF FEM	ESP	24 hr & Annual/AQI
8. Troost	3	Collocated FRM	ESP	24 hr & Annual (Quality Assurance)
	Н	TEOM-1405-DF FEM	ESP	24 hr & Annual/AQI
9. Blue Ridge I-70 (near-roadway)	Н	TEOM-1405-DF FEM	ESP	24 hr & Annual/AQI (Micro Scale Monitor)
10. Richards-Gebaur South	H	TEOM-1405-DF FEM	ESP	24 hr & Annual/AQI
Springfield	 			
11. MSU	Н	TEOM-1405-DF FEM	ESP	AQI, PM10-2.5 continuous
St. Joseph	<u> </u>			
12. Pump Station	H	TEOM-1405-DF FEM	ESP	24 hr & Annual/AQI, PM10-2.5 continuous
	Н	TEOM-1405-DF FEM	ESP	Collocated FEM-PM2.5
Outstate				
13. El Dorado Springs	Н	TEOM-1405-DF FEM	ESP	24 hr & Annual/AQI
<u>-</u>	3	IMPROVE	ESP	
14. Bonne Terre	3	Speciation	ESP	0
15. Mingo	3	IMPROVE	Fish & Wildlife Service	
16. Hercules Glades	3	IMPROVE	Forest Service	
. ,	1	L		1

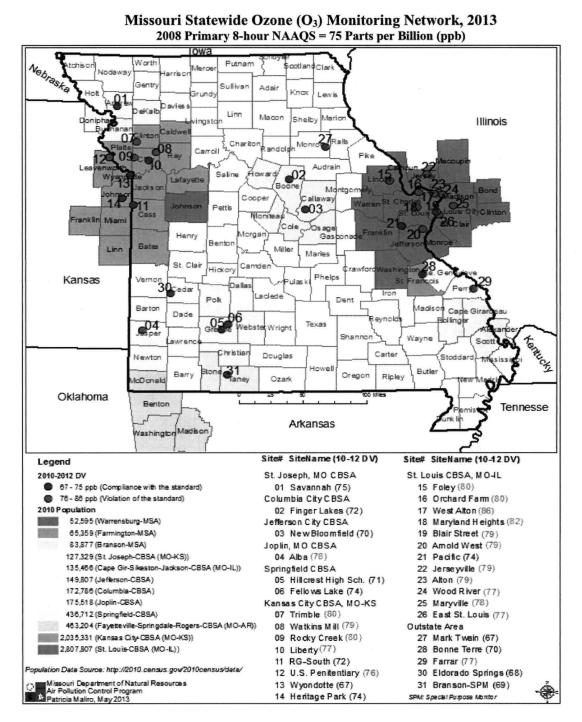
^{1 =} Everday sampling; 3 = Every third day; 6 = Every sixth day; H = Continuous monitoring, hourly data reported.

Near-Roadway PM_{2.5} monitors- 40 CFR 58, Appendix D, 4.7.1 (c) (2) "... In many situations, monitoring sites that are representative of microscale or middle-scale impacts are not unique and are representative of many similar situations. This can occur along traffic corridors or other locations in a residential district. In this case, one location is representative of a number of small scale sites and is appropriate for evaluation of long-term or chronic effects."

[†] The Branch St. Monitor is a unique middle scale impact site and not eligible for comparison to the Annual PM_{2.5} NAAQS consistent with 40 CFR 58.30.

5. Ozone Monitoring Network

There are no planned changes to the ozone monitoring network; however, ozone monitoring will be conducted all year at the Mark Twain State Park (MTSP) site to collect ozone background data need for PSD modeling projects. The current monitoring network is based on the current ozone standard and ground-level ozone air quality monitoring network design requirements.



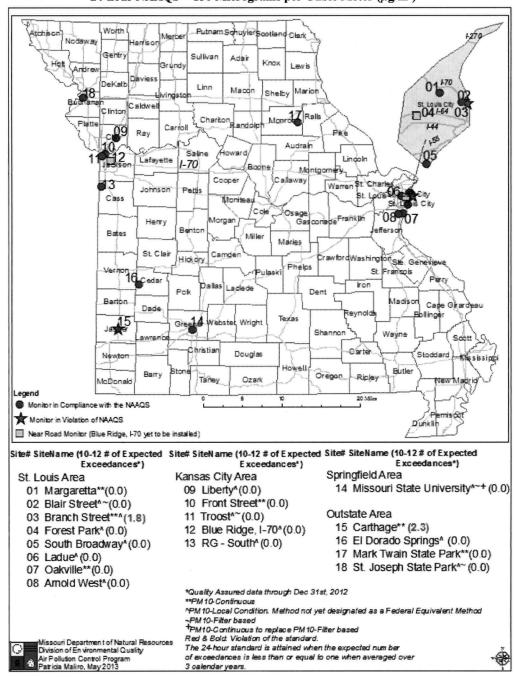
6. PM₁₀ Monitoring Network

6.1 Method Changes

The filter based PM_{10} monitoring at MSU will be replaced by the continuous TEOM® 1405-DF monitor once it receives a PM_{10} FEM designation to increase the temporal availability of PM_{10} NAAQS compliance monitoring in this area and to reduce the cost of operating two PM_{10} methods at the same site. Hourly PM_{10} data will provide more data for particulate matter episode analysis.

As discussed in Section 4, the TEOM-1405-DF monitor has the capability of reporting the PM_{10c} (PM₁₀ at local conditions of ambient temperature and barometric pressure) along with the PM_{2.5} FEM measurements. Once the TEOM 1405-DF obtains a PM₁₀ FEM designation, the number of Special Purpose NAAQS comparable continuous PM₁₀ monitors will increase in the St. Louis area by four (4) sites (Blair St., Ladue, South Broadway and the new Forest Park Near Roadway site) which will bolster the count toward the PM₁₀ minimum monitoring requirements in this CBSA to a total count of ten (10) monitors.

Missouri Statewide PM₁₀ Monitoring Network, 2013 24-hour NAAQS = 150 Micrograms per Cubic Meter (μ g/m³)



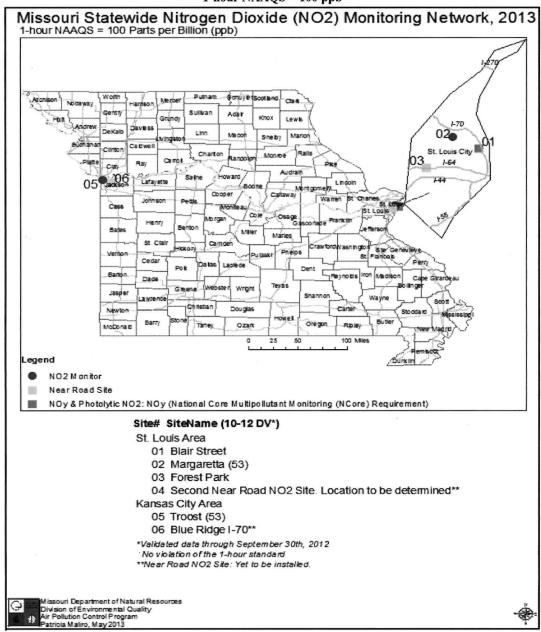
7. Nitrogen Dioxide (NO2) Monitoring Network

The department added one near-roadway NO₂ monitor to the network at the Forest Park I-40/64 near-roadway monitoring site in January 1, 2013. The Community-wide monitoring network requirement of 40 CFR 58 Appendix D, 4.3.3(a) is satisfied by the existing Troost and Margaretta monitoring sites.

EPA has not identified Missouri as needing one of the minimum of forty additional NO₂ monitoring stations nationwide in any area, inside or outside of CBSAs, above the minimum monitoring requirements, with a primary focus on siting these monitors in locations to protect susceptible and vulnerable populations. This requirement is the responsibility of the respective Regional Administrators working with their respective states consistent with 40 CFR 58 Appendix D, 4.3.4(a).

The department is adding a photolytic NO₂ monitor at the Blair St. NCore site, St. Louis, using one-time Section 103 funding. Photolytic NO₂ monitoring is identified in EPAs' long term monitoring strategy and this monitoring will supplement the NOy monitoring currently being conducted at the NCore site. A photolytic NO₂ monitor is also being operated at the Forest Park near-roadway monitoring site to evaluate the differences between the tradition molybdenum converter based NO₂ method and the photolytic NO₂ method in the near-roadway monitoring environment.

Missouri Statewide Nitrogen Dioxide (NO₂) Monitoring Network, 2013 1-hour NAAQS = 100 ppb



7.2 NO₂ Near-Roadway Monitoring

7.2.1 Near-Road Monitoring Requirements

NO₂: The final rule revising the NAAQS to add the 1-hour standard of 100 ppb (3-year average of annual 98th percentile), signed 1/22/2010 and published 2/9/2010 requires near-road NO₂ monitoring at two sites in the St. Louis CBSA (population 2.8 million) and one site in the Kansas City CBSA (population 2.0 million) (based on population and traffic count). Sites were to be identified in the 7/2012 air monitoring plan and begin operation by 1/1/2013. Because of resource and other constraints, EPA staff proposed a relaxation of this schedule. The schedule was revised in a rulemaking published in the Federal Register on March 14, 2013. The revised rule now requires that the first St. Louis area near-road site begin operation in January 2014, the Kansas City area site begin operation in January 2014, and the second St. Louis area site begin operation in January 2015. Due in large part to receipt of one-time funding for establishment of near-road sites, the department established the first St. Louis area site in January 2013, and the Kansas City area site is being established in the second quarter of calendar year 2013. The second St. Louis area site will be established in January 2015. The complement of instruments at the second St. Louis site will depend on availability of funds, which is uncertain at this time.

The first St. Louis area near-road site, as discussed below, was also discussed in the 2012 network plan, but was not approved by EPA, in part because the 2010 NO₂ rule required approval of near-road monitoring sites by the EPA Administrator. The 2013 revision changed this requirement to approval by the Regional Administrator, consistent with other monitoring approvals. EPA Region VII staff have been informed throughout the process of site selection and establishment and have visited all or most of the prospective sites, so approval of the first St. Louis site and the Kansas City site on the basis of this plan are expected.

CO: The final rule continuing the NAAQS, signed 8/12/2011 and published 8/31/2011 requires near-road CO monitoring (collocated with NO₂ sites) at one site in the St. Louis CBSA by 1/2015 and one site in the Kansas City CBSA by 1/2017. The department intends to establish CO monitoring at the same time as NO₂ monitoring, as described above.

Near-road monitoring stations must be within 50 meters (164 feet) of target road segments to measure expected peak concentrations, and should be within about 20 meters of the roadway. Microscale near-road monitors must have inlets between 2 and 7 meters above ground level.

EPA Guidance

EPA issued a Near-road NO₂ Monitoring Technical Assistance Document (TAD) in June 2012. The TAD is available online at http://www.epa.gov/ttn/amtic/nearroad.html The TAD includes recommendations on site selection that were used in the analysis described below.

7.2.2 Analysis and Site Selection for the St. Louis Area

Traffic counts (annual average daily traffic; AADT) for major highway segments in Missouri are available on a Missouri Department of Transportation (MODOT) website at

http://www.modot.mo.gov/safety/trafficvolumemaps.htm Truck volumes are also indicated for some, but not all highway segments. The maximum 2010 AADT in the St. Louis area is 183,813.

The TAD recommends ranking segments by AADT and also by weighted AADT, where heavy-duty vehicles are weighted a factor of 10 times higher. Table 7.2-1 lists highway segments with AADT greater than 100,000 (and a few additional segments included for continuity). The numbers in the left column are arbitrary location identifiers. Table 7.2-2 adds weighted AADT using truck volumes from the MODOT maps where available and using interpolated or extrapolated truck volumes otherwise.

For the St. Louis area, as shown in Tables 7.2-3 and 7.2-4, the eight segments with highest AADT were the same as the eight segments with the highest weighted AADT.

Figure 7.2-1 shows the locations of these eight segments superimposed on a portion of one of the MODOT AADT maps. The four segments with the highest AADT, unweighted or weighted (no. 39, 40, 41, and 42), are on I-270 between Page Avenue (highway 364) to the north and I-44 to the south. Two of the segments are on I-64 between I-170 to the west and Kingshighway Boulevard to the east, adjacent to the southern boundary of Forest Park. The remaining two segments are on I-70 just west of I-270, and on I-270 between highway 370 on the west and Lindbergh Boulevard on the east.

Figure 7.2-2 shows a wind rose for recent multiple years (2002 to 2006) at the St. Louis airport. The wind rose suggests that a near-road monitoring site would, in general, be best located in a direction from north to east of a target roadway.

Table 7.2-1.

	ouis Area Traffic	Counts > 1	100,000 A
kan	ked by AADT	<u>;</u>	
N o.	Highway	Location	AADT
1	1270 (n to s)	s of 64	183,813
0	I270 (n to s)	n of 64	176,384
39	I270 (n to s)		175,022
12	1270 (n to s)	n of 44	174,973
16	US40/I64 (w to e)	e of 170	173,236
36	1270 (n to s)	e of 370	166,108
6	170 (west to east)	w of 270	161,338
17	US40/I64 (w to e)		159,326
38	1270 (n to s)	s of 70	157,483
43	1270 (n to s)	s of 44	155,464
5	I70 (west to east)		148,056
14	US40/I64 (w to e)	e of 67	145,940
34	1270 (n to s)	e of 170	141,577
22	144 (w to e)		141,541
8	I70 (west to east)	e of 67	140,853
21	144 (w to e)		138,031
15	US40/I64 (w to e)	w of 170	137,403
2	I70 (west to east)	e of 79	135,074
9	I70 (west to east)	e of 170	135,061
20	144 (w to e)		134,961
4	I70 (west to east)	e of 94	130,566
13	US40/I64 (w to e)	e of 270	129,909
35	1270 (n to s)	w of 170	126,394
37	1270 (n to s)	w of 370	123,378
7	I70 (west to east)	e of 270	122,444
27	155 (n to s)	s of 270	121,525
29	I170 (n to s)	s of 70	121,164
10	170 (west to east)		118,591
3	I70 (west to east)	e of 370	116,010
1	I70 (west to east)	w of 79	115,967
32	1170 (n to s)	n of 64	115,797
12	US40/I64 (w to e)	w of 270	113,732
26	155 (n to s)	n of 270	112,984
31	I170 (n to s)		109,321
33	I270 (n to s)	w of 367	108,774
30	I170 (n to s)		106,961
28	155 (n to s)		101,882
19	144 (w to e)	e of 61	100,841
23	155 (n to s)	s of 64	100,615
11	170 (west to east)		95,690
24	155 (n to s)	s of 44	91,910
18	US40/I64 (w to e)	<u> </u>	91,109
25	155 (n to s)	 	86,323

Table 7.2-2.

	St. Louis Area Traf						- 4: 2 2 5
No.	Highway	Location			Truck/Total	est T/T	adj AADT
1	170 (west to east)	w of 79	115,967			0.117	238,137
2	170 (west to east)	e of 79	135,074		0.117	0.117	277,373
3	170 (west to east)	e of 370	116,010			0.137	258,658
4	170 (west to east)	e of 94	130,566			0.137	291,112
5	170 (west to east)		148,056			0.137	330,108
6	170 (west to east)	w of 270	161,338			0.137	359,722
7	170 (west to east)	e of 270	122,444			0.156	294,569
8	170 (west to east)	e of 67	140,853		0.123	0.123	296,193
9	170 (west to east)	e of 170	135,061		<u> </u>	0.161	330,317
10	170 (west to east)	ļ	118,591		ļ	0.146	274,868
11	170 (west to east)	ļ	95,690		0.199	0.199	266,834
12	US40/I64 (w to e)	w of 270	113,732	10,704	0.094	0.094	210,068
13	US40/I64 (w to e)	e of 270	129,909			0.107	254,972
14		e of 67	145,940		0.120	0.120	303,314
15	US40/I64 (w to e)	w of 170	137,403			0.135	304,829
16	US40/I64 (w to e)	e of 170	173,236	26,152	0.151	0.151	408,604
17	US40/I64 (w to e)	<u> </u>	159,326			0.151	375,795
18	US40/I64 (w to e)		91,109			0.151	214,895
19	144 (w to e)	e of 61	100,841			0.117	207,075
20	144 (w to e)	<u> </u>	134,961		<u> </u>	0.117	277,140
21	144 (w to e)		138,031	16,157	0.117	0.117	283,444
22	144 (w to e)	!	141,541			0.117	290,652
23	155 (n to s)	is of 64	100,615			0.131	219,346
24	155 (n to s)	s of 44	91,910	12,051	0.131	0.131	200,369
25	155 (n to s)		86,323			0.131	188,189
26	155 (n to s)	n of 270	112,984			0.131	246,312
27	155 (n to s)	s of 270	121,525			0.131	264,931
28	155 (n to s)		101,882			0.131	222,109
29	1170 (n to s)	s of 70	121,164			0.137	270,287
30	1170 (n to s)		106,961			0.137	238,604
31	1170 (n to s)		109,321			0.137	243,868
32	1170 (n to s)	n of 64	115,797			0.137	258,315
33	1270 (n to s)	w of 367	108,774	20,059	0.184	0.184	289,305
34	1270 (n to s)	e of 170	141,577	, - · · 		0.151	333,626
35	1270 (n to s)	w of 170	126,394			0.151	297,848
36	1270 (n to s)	e of 370	166,108			0.151	391,434
37	1270 (n to s)	w of 370	123,378			0.151	290,740
38	1270 (n to s)	s of 70	157,483		0.117	0.117	323,362
39	1270 (n to s)		175,022			0.153	416,802
40	1270 (n to s)	n of 64	176,384	,		0.153	420,046
41	1270 (n to s)	s of 64	183,813		 	0.153	437,738
42	1270 (n to s)	n of 44	174,973		0.190	0.190	474,097
43	1270 (n to s)	s of 44	155,464			0.117	319,246
	12.5 (1. 10 5)	1-0			3,22,		
		<u>-1</u>		average	0.140	0.138	

Table 7.2-3.

St. Louis Area Traffic Counts > 100,000 AADT (2010)						
Ranked by AADT						
No.	Highway	Location	AADT			
41	1270 (n to s)	s of 64	183,813			
40	1270 (n to s)	n of 64	176,384			
39	1270 (n to s)		175,022			
42	1270 (n to s)	n of 44	174,973			
16	US40/I64 (w to e)	e of 170	173,236			
36	1270 (n to s)	e of 370	166,108			
6	170 (west to east)	w of 270	161,338			
17	US40/I64 (w to e)		159,326			

Table 7.2-4.

St. L	St. Louis Area Traffic Counts > 100,000 AADT (2010) Ranked by adjusted AADT, trucks =14% (average)						
Ran							
No.	Highway	Location	AADT	Adj. AADT			
41	1270 (n to s)	s of 64	183,813	415,417			
40	1270 (n to s)	n of 64	176,384	398,628			
39	1270 (n to s)		175,022	395,550			
42	1270 (n to s)	n of 44	174,973	395,439			
16	US40/I64 (w to e)	e of 170	173,236	391,513			
36	1270 (n to s)	e of 370	166,108	375,404			
6	170 (west to east)	w of 270	161,338	364,624			
17	US40/I64 (w to e)		159,326	360,077			

Figure 7.2-1

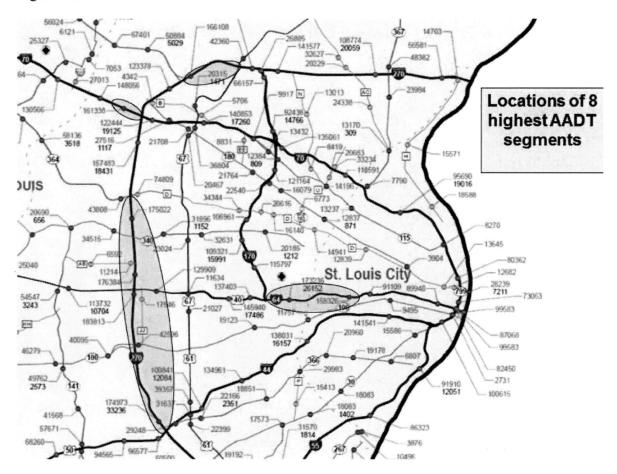
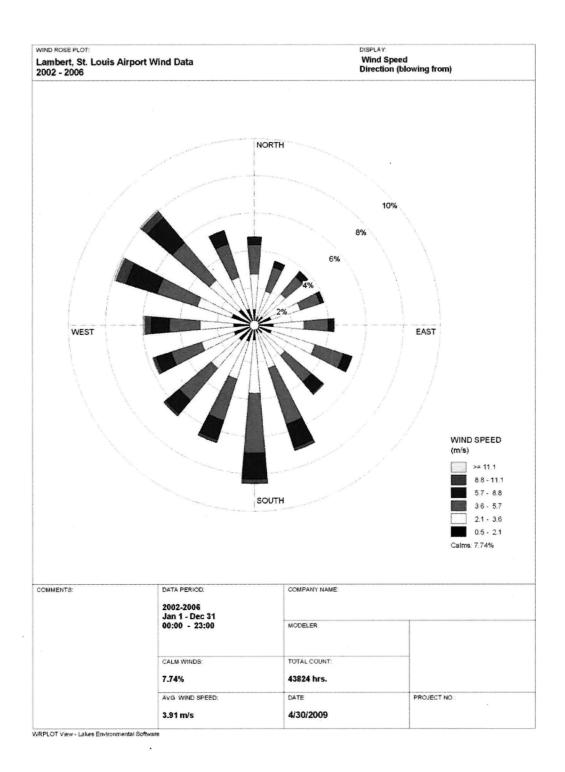


Figure 7.2-2.



Field Evaluation and Description of Potential St. Louis Area Monitoring Sites

On December 22, 2011 Missouri Department of Natural Resources Air Pollution Control Program (APCP) and Environmental Services Program (ESP) staff visited potential monitoring sites in the vicinity of the highway segments identified above. On February 15, 2012, APCP staff revisited some of the sites with Mr. Leland Grooms, Air Monitoring Team Leader for EPA Region VII. This section presents discussion of the suitability of the sites.

<u>I-270 north of I-44:</u> The area near I-270 just north of I-244 is heavily wooded. It is also somewhat hilly. No suitable monitoring sites were identified in this area.

I-270 north of I-64: The Saint Johns Mercy Medical Center complex is on McCauley Drive in Creve Coeur, adjacent to (east of) I-270 and about ½ mile north of I-64. The area between McCauley Drive and I-270 is at the same level as the roadway, and would meet siting criteria for a near-road monitoring station. This location is in a desirable direction (E) from and in close proximity (25 meters) to the section of highway with the highest AADT in the St. Louis area, and also not far (about 1 kilometer) from another highway with high AADT. The potential for congestion may be less than that for the Forest Park area because of the higher number of traffic lanes. It may be difficult to secure permission to locate an air monitoring station in the landscaped area adjacent to the highway. The division between MODOT and hospital property is not obvious. This location would provide some indication of the exposure of a sensitive population because of its proximity to the medical center and to nearby residential areas.

I-64 between I-270 and Kingshighway Boulevard (Forest Park): Forest Park in St. Louis is bounded by Skinker Boulevard on the west, Lindell Boulevard on the north, Kingshighway Boulevard on the east, and I-64 on the south. Two locations near the southeast corner of the park were identified that would meet siting criteria, adjacent to the St. Louis Mounted Police barn near the planetarium, and near the greenhouses behind park office buildings (see Figures 7.2-3). This location is in the desired direction (N) from and in close proximity (20 to 25 meters) to a highway with high AADT and high potential for congestion. This location would provide some indication of population exposure, since there is a jogging or biking trail along the park boundary adjacent to the highway, and hospital complexes to the east of Forest Park.

<u>I-70 west of I-270</u>: Rider Trail S. and Hollenberg Drive (same street, changes name) is roughly parallel to and north of I-70 in Bridgeton between I-270 to the east and Earth City Expressway to the west. Two locations in this area were identified that would meet siting criteria, near the southeast corner of the CAPS Inc. building, and across the street from the Marriott Courtyard. Either of these locations is in a desirable direction (N) from and in relatively close proximity (20 to 30 meters) to a highway segment with a relatively high AADT but less potential for congestion than the Forest Park location. The difficulty of securing permission to locate an air monitoring station is unknown. The area near this location is primarily commercial and residential, so would provide some indication of population exposure.

<u>I-270 east of Highway 370 and west of Lindbergh Boulevard:</u> Two locations in this general area were identified that would meet siting criteria. One area is in Hazelwood at the end of Brookes Drive on the south side of I-270, adjacent to Bommarito Volkswagen and Brookes Park. This location is in a non-optimal direction (S) from a highway segment with high AADT and potential

congestion, but not as close (30 meters) to the highway as some of the other sites evaluated. The difficulty of securing permission to locate an air monitoring station is unknown. The area near this location is primarily commercial and residential, so would provide some indication of population exposure.

The second area is on the north side of I-270, southeast of the Prairie Commons Branch Library, north of Dunn Road, east of Utz Lane, southwest of Hazelwest Drive, in either Hazelwood or an unincorporated area of St. Louis County. The location near the library is in a desirable direction (N) from a highway segment with high AADT and potential congestion, but not as close (35 meters) to the highway as some of the other sites evaluated because of a frontage road between the site and the highway. The difficulty of securing permission to locate an air monitoring station might be less than at some sites if the location is on the library property. The area near this location is primarily commercial and residential, so would provide some indication of population exposure.

St. Louis Area Site Ranking

Some of the characteristics of each location are summarized in Table 7.2-5, which lists the locations in order of ranking. The table includes an indicator of the potential for congestion at each location, the ratio of AADT to number of traffic lanes (as suggested in the TAD).

As discussed above, truck counts are not available for all road segments and so were estimated by interpolation or extrapolation. Unfortunately, none of the road segments immediately adjacent to the locations of interest have truck counts, but only estimated truck fractions. The estimated fractions are not different enough to discriminate between locations on that basis.

An additional consideration, not shown in the table, is the potential likelihood of securing permission from landowners for location of an air monitoring station.

Based on AADT, congestion, distance and direction from the roadway, and likelihood of securing permission to locate a monitoring station, the locations are ranked in approximately the order listed in Table 7.2-5. Based in part on the February 15, 2012 site visits, EPA Region VII staff generally approved all of the sites and identified the site in Forest Park as first choice, consistent with this evaluation.

Table 7.2-5.

		Summary an	d Approxim	nate Ranking of	Sites		†
				<u> </u>	Estimated	Approx. Distance	Direction
Location	Highway	AADT	Lanes	AADT/Lanes	Truck Fraction	to Roadway (m)	from Roadway
Forest Park	64	159,326	8	19,916	0.151	20-25	N
Hospital	270	176,384	12	14,699	0.153	25	E
CAPS/Courtyard	70	161,338	11	14,667	0.137	20-30	N
Library	270	166,108	8	20,764	0.151	35	N
Brookes	270	166,108	9	18,456	0.151	30	S

Selection of First St. Louis Area Site

ESP staff contacted St. Louis City Parks staff by telephone in late February 2012 and discussed the possibility of locating an air monitoring site in Forest Park adjacent to Interstate 64. On March 1, 2012, ESP staff met with St. Louis City Parks staff in Forest Park. During that visit, a specific site to the west of the greenhouses was identified which is acceptable to City Parks staff (see Figures 7.2-4 and 7.2-5). The monitoring site is elevated a few feet above the level of the roadway, but not enough to be a concern. Based on the analysis and site visits described above, including communication with and site visits by EPA, APCP recommends approval of the Forest Park site as the first near-road monitoring site for the St. Louis area. Agreement for use of this site has been negotiated between Missouri Department of Natural Resources and St. Louis City, and operation of this site began on January 1, 2013.

Second St. Louis Area Site

The second St. Louis area site, which will begin operation in January 2015, will probably be selected from one of the candidate sites identified above or at least from the areas identified above. One consideration will be selection of a site with different traffic patterns and/or a different mix of vehicles than the Forest Park site. Selection of this site will be coordinated with EPA Region VII staff and discussed in more detail in next year's monitoring network plan. The complement of instrumentation at this site will depend on the availability of funds and will also be discussed with EPA Region VII staff and in the next monitoring network plan.

Figure 7.2-3. Aerial photographs of Forest Park in St. Louis and I-64 (along the southern edge of the park). The lower photograph shows the identified location for an air monitoring station near the greenhouses in Forest Park. The arrow extends from the area of interest in one photograph to the same area in the other photograph.

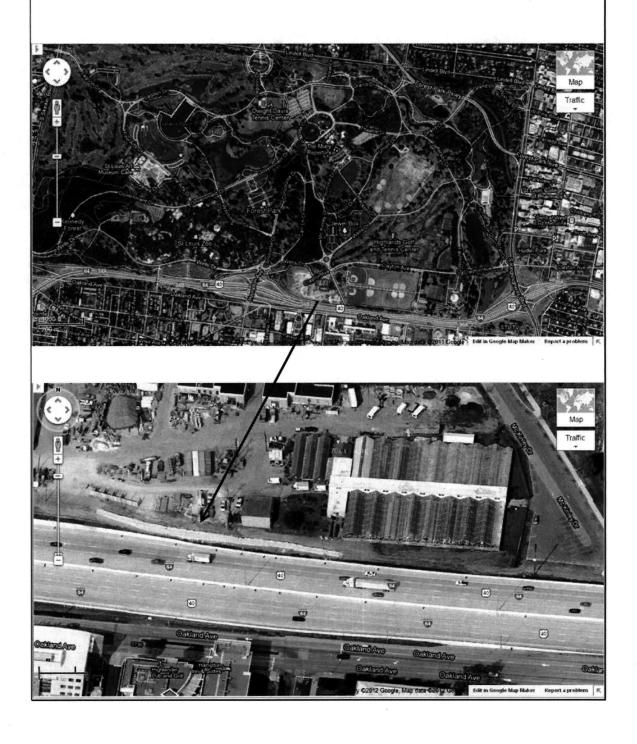
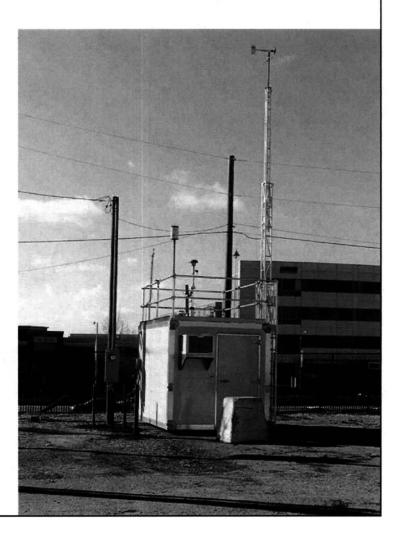


Figure 7.2-4. Looking east along Interstate 64 (before site installation). The monitoring site was installed in the paved area inside the fence to the left. The jogging or biking path along the park perimeter extends straight ahead, and Interstate 64 is to the right.



Figure 7.2-5. The Forest Park monitoring station, looking south across Interstate 64.



7.2.3 Analysis and Site Selection for the Kansas City Area

Analysis for the Kansas City area was done similarly to that described above for the St. Louis area. Table 7.2-6 lists highway segments with AADT greater than 50,000. The maximum 2010 AADT in the St. Louis area is 152,856. Table 7.2-7 adds weighted AADT using truck volumes from the MODOT maps where available and using interpolated or extrapolated truck volumes otherwise.

For the Kansas City area, as shown in Tables 7.2-8 and 7.2-9, the eight segments with highest weighted AADT were the same as eight of the ten segments with the highest AADT (highlighted in Tables 7.2-6, 7.2-8, and 7.2-9).

Figure 7.2-6 shows the locations of these eight segments superimposed on a portion of one of the MODOT AADT maps. Four of the segments are on I-70 extending from I-435 on the west to a point between I-470 and Highway 7 on the east. Two of the segments are on I-435 between the Missouri/Kansas state line on the west and Highway 71 on the east. Two additional segments are on I-70 east of I-29 and on I-35 south of I-670, both in the central Kansas City area, shown on the inset map in the figure.

Figure 7.2-7 shows a wind rose for recent multiple years (2002 to 2006) at the Kansas City airport. The wind rose suggests that a near-road monitoring site would, in general, be best located north of a target roadway.

Evaluation of Kansas City Area Sites

Based on review of aerial photographs of the identified segments and on a brief visit to the areas, suitable monitoring sites were most likely to be found in the first two areas described above, I-70 between I-435 on the west and a point between I-470 and Highway 7 on the east and I-435 between the Missouri/Kansas state line on the west and Highway 71 on the east. Aerial photographs of these two areas are shown in Figures 7.2-8 and 7.2-9. On July 25, 2012 department staff visited potential near-road nitrogen dioxide (NO₂) monitoring sites in the Kansas City, Missouri area in the two areas described above. Each of these highway segments lies in a west-east direction, and the wind rose for the Kansas City area indicates that the best location for a downwind air monitoring site would be on the north side of the highway. Four candidate monitoring sites were identified, two adjacent to each of these highway segments. The candidate sites are described below.

Adjacent to Vatterott College: Vatterott College is a two-story building located at 8955 E. 38th Terrace, west of Blue Ridge Cutoff, on the north side of Interstate 70, across the highway from Kauffman Stadium. The rear of the building is parallel to the highway, about 20 to 25 meters from the edge of the highway. A chain link fence is parallel to the rear of the building, about 5 to 8 meters from the building or 15 to 18 meters from the edge of the highway. The building would be a barrier to the north of a potential monitoring site, but the building lies to the north of the highway, so a monitoring site in this area would have good exposure to the highway. A possible monitoring site might be on the north side of the fence or near the west end of the building on the highway side of the fence. A site on the highway side of the fence would require coordination with the Missouri Department of Transportation (MODOT) and installation of an

access gate in the fence and possibly of safety barriers. Vatterott College was in the process of moving to a new campus which ruled out negotiating a long term property access agreement.

Adjacent to Sterling Court Apartments: Sterling Court apartments are located on Harvard Lane and Harvard Circle, west of Sterling Avenue, south of U. S. 40, and adjacent to the north side of Interstate 70. A parking lot is south of the apartment buildings and is separated from the highway by a chain link fence. The fence is about 10 to 20 meters from the edge of the highway. A possible monitoring site might be in the parking lot adjacent to the fence.

Adjacent to Molle Volkswagen Service Department: The Molle Volkswagen Service Department is located near the south end of Summit Street, in a complex of automobile dealerships south of 103rd Street, east of State Line Road, west of Wornall Road, and north of Interstate 435. The parking area south of the building is separated from the highway by a chain link fence. The fence is about 25 meters from the edge of the highway. Trees along the fenceline would make a location north of the fence unsuitable for air monitoring, but a suitable location could be found in the grassy area south of the fence and of the trees. A site on the highway side of the fence would require coordination with MODOT and installation of an access gate in the fence and possibly of safety barriers. Similar locations exist adjacent to other automobile dealerships in the area, but dense parking of new cars would make access the area adjacent to the highway more difficult near the other dealerships.

Near the Pinnacle Career Institute: The Pinnacle Career Institute is located at 1001 E. 101st Terrace, east of Holmes Road, and north of Interstate 435. The potential monitoring site is in a grassy area adjacent to the southeast corner of the parking lot, separated from the highway by a chain link fence. The portion of the fence that parallels the highway is about 23 meters from the edge of the highway. This location is elevated about 6 meters above the highway, which would make it difficult to meet the recommendation for a sampling inlet 2 to 7 meters above the road level.

Identification and descriptions of these four sites was communicated to EPA Region VII staff, who visited some or all of the sites.

Selection of Kansas City Area Site

Based on review of site characteristics and discussions with Missouri Department of Transportation (MODOT) representatives and with property owners, one of these four sites appeared to be the most promising candidate and has been selected. That site is on the property of Sterling Court Apartments (Figure 7.2-10). On September 19, 2012 department staff met with the manager and owner of the Sterling Court Apartments and determined that they were agreeable to installation and operation of a monitoring site on their property at a location near the southwest corner of the parking area adjacent to the fence. The fence in that area is about 20 meters from the edge of the roadway. The approximate location of the monitoring site is indicated by the tip of the red arrow in the aerial photograph in Figure 7.2-11. The apartment owner was also agreeable to removal of trees on their property as needed to meet monitor siting criteria, and MODOR was also agreeable to removal of trees along the fenceline. Removal of trees was necessary to meet siting criteria and provide unimpeded airflow from the highway to the monitoring site. Tree removal was completed at the site in December 2012 and January

2013. Figure 7.2-13 shows a view of Interstate 70 from the site following completion of tree removal. Figure 7.2-14 shows the monitoring shelter installed at the site in May 2013. Operation is expected to begin during the second quarter of calendar year 2013. This site will be called the Blue Ridge I-70 site.

Table 7.2-6

Ran	ked by AADT			
Nin	Highway	Location	AADT	
13	1435S	e of st l	152,856	! — — — · : — — —
16	170	e of 670	135,266	
2	1435S	bet 71 & st I	129,464	
22	135	s of 670	118,097	
19	170	e of 435	114,495	
1 9	170	- E 01 433	114,034	
30 3	1435E	n of 70		
35		e of 35	103,008	
52	1670	e of 470	99,388	
	170		98,488	
51	170	w of 470	98,244	
26	171		93,692	<u> </u>
20	129/135	s of 24	92,249	<u> </u>
14_	170	at 29/35/70?	92,249	
7	1435E	s of 24	90,778	-
25	71		90,385	<u> </u>
29	71	s of 50	89,131	<u> </u>
	1435E	s of 70	88,710	
48	170	w of 435	85,528	
3	129	w of 169	83,933	
5	1435E	s of 210	82,545	
23	135	e of st l	80,181	
43	170	e of 169	79,980	İ
45	170	s of 29/35/70		
2	129	s of 152	75,952	
30	71		74,995	
 -	1470	e of 71	74,891	
	71	s of 670	73,392	
	1435E	s of 350	73,354	
19	129/135	n of 24	72,054	
31	71			
		n of 150	71,248	
32	71	s of 150	69,724	
47	170		69,715	
53	170	w of 7	69,390	
40	50	s of 470	69,228	ļ
16	135	w of 1	68,634	
42	170	e of st I	68,318	
28	71	n of 435	67,735	
11	1435E	n of 71	66,386	:
4	129	w of 35	65,994	ii
27	71		65,107	<u>.</u>
36	1470	s of 40	64,739	
5	1435E	s of 35	63,464	
34	1670	w of 35	61,233	
33	1670	e of st l	61,208	
37	1470		59,514	
18	129/135	s of junction	59,044	
38	1470	e of 50	58,863	
21	135	s of 70	58,389	
14	135	s of 152	56,716	
41	50	w of 291	55,759	
	135	· · · · · · · · · · · · · · · · · · ·		
17 15	135	e of 29 w of 435E	53,185 52,884	

Table 7.2-7

	Kansas City Area Traffic Counts > 50,000 AADT (2010) (as entered/unranked)						
No.	Highway	Location		Truck AADT		est T/T	adj AADT
1	1435/129	near MCI	50,153			0.058	76,147
2	129	s of 152	75,952	4,374	0.058	0.058	115,318
3	129	w of 169	83,933			0.058	127,436
4	129	w of 35	65,994	,		0.058	100,199
5	1435E	s of 35	63,464			0.115	128,902
6	1435E	s of 210	82,545	9,457	0.115	0.115	167,658
7	1435E	s of 24	90,778			0.135	200,886
8	1435E	n of 70	103,008			0.135	227,951
9	1435E	s of 70	88,710		T .	0.135	196,310
10	1435E	s of 350	73,354	11,368	0.155	0.155	175,666
11	1435E	n of 71	66,386			0.155	158,979
12	14355	bet 71 & st	129,464			0.155	310,037
13	14355	e of st l	152,856			0.155	366,055
14	135	s of 152	56,716		. — — — —	0.166	141,604
15	135	w of 435E	52,884	5,748	0.109	0.109	104,616
16	135	w of 1	68,634	14,388	0.210	0.210	198,126
17	135	e of 29	53,185			0.162	130,779
18	129/135	s of junction	59,044	6,765	0.115	0.115	119,929
19	129/135	n of 24	72,054			0.155	172,584
20	129/135	s of 24	92,249		-	0.155	220,955
21	135	s of 70	58,389	·		0.155	139,853
22	135	s of 670	118,097			0.155	282,866
23	135	e of st I	80,181			0.155	192,049
24	71	s of 670	73,392	 -		0.067	117,333
25	71	301070	90,385			0.067	144,500
26	71		93,692	<u></u>		0.067	149,787
27	71		65,107			0.067	104,088
28	71	n of 435	67,735	4,506	0.067	0.067	108,289
28 – –	71	s of 50	89,131	4,500		0.067	142,495
30	71	30130	74,995			0.067	119,896
31	71	n of 150	71,248			0.067	113,905
32	71	s of 150	69,724		<u> </u>	0.067	111,469
		-				0.195	168,885
33 34	1670 1670	e of st I	61,208 61,233	11,969	0.195	0.195	168,954
	1670	w of 35			0.159		
35		e of 35	99,388	15,812		0.159	241,696
36	1470	s of 40	64,739	10,061	0.155	0.155	155,288
37	1470		59,514			0.135	131,817
38	1470	e of 50	58,863	0.500	0.115	0.135	130,375
39	1470	e of 71	74,891	8,580	0.115		152,111
40	50	s of 470	69,228	ļ		0.115	140,609
41	50	w of 291	55,759	40.054	0.405	0.115	113,252
42	170	e of st l	68,318	13,354	0.195	0.195	188,504
43	170	e of 169	79,980		 -	0.195	220,681
44	170	at 29/35/70?	92,249			0.195	254,534
45	170	s of 29/35/70	77,323		0.50=	0.195	213,350
46	170	e of 670	135,266	26,440	0.195	0.195	373,226
47	170		69,715	ļ	 	0.226	211,641
48	170	w of 435	85,528			0.226	259,647
49	170	e of 435	114,495	<u> </u>	 	0.226	347,585
50	170		114,034			0.226	346,185
51	170	w of 470	98,244	l	 	0.226	298,250
52	170	e of 470	98,488	25,305	0.257	0.257	326,233
53	170	w of 7	69,390		 	0.257	229,848
	1	1				ļ	

Table 7.2-8

Kan	Kansas City Area Traffic Counts > 50,000 AADT (2010)				
Ran	ked by AADT				
No.	Highway	Location	AADT		
13	1435S	e of st I	152,856		
46	170	e of 670	135,266		
12	1435S	bet 71 & st l	129,464		
22	135	s of 670	118,097		
49	170	e of 435	114,495		
50	170		114,034		
8	1435E	n of 70	103,008		
35	1670	e of 35	99,388		
52	170	e of 470	98,488		
51	170	w of 470	98,244		

Table 7.2-9

Kan	Kansas City Area Traffic Counts > 50,000 AADT (2010)				
Ran	Ranked by adjusted AADT, trucks=14% (average)				
No.	Highway	Location	AADT	Adj. AADT	
46	170	e of 670	135,266	373,226	
13	1435S	e of st l	152,856	366,055	
49	170	e of 435	114,495	347,585	
50	170		114,034	346,185	
52	170	e of 470	98,488	326,233	
12	1435S	bet 71 & st I	129,464	310,037	
51	170	w of 470	98,244	298,250	
22	135	s of 670	118,097	282,866	
48	170	w of 435	85,528	259,647	
44	170	at 29/35/70?	92,249	254,534	

Figure 7.2-6

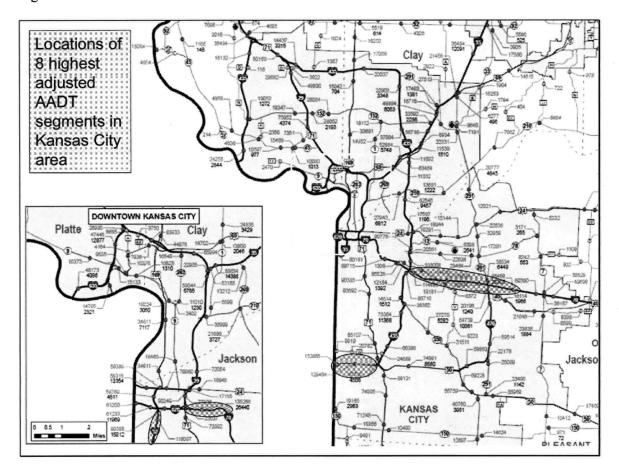


Figure 7.2-7

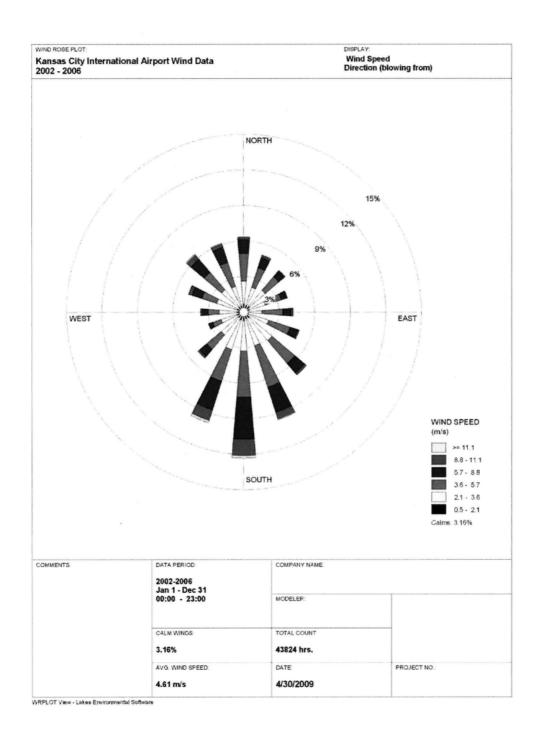


Figure 7.2-8. Aerial photograph of the I-70 area of interest between I-435 on the west and a point between I-470 and Highway 7 on the east.



Figure 7.2-9. Aerial photograph of the I-435 area of interest between the state line on the west (indicated by State Line Road) and the interchange on the east.





Figure 7.2-10. Location of Sterling Court Apartments in Kansas City (indicated by the red rectangle), north of Interstate 70, south of US 40, and west of Sterling Avenue.



Figure 7.2-11 a and b. Sterling Court Apartments and Interstate 70. The approximate location of the monitoring site is near the southwest corner of the parking area along the fence across the middle of the picture, indicated by the tip of the red arrow. A view from Interstate 70, showing the trees that have subsequently been removed, is shown below.





Figure 7.2-12 Looking south at Interstate 270 from the Blue Ridge monitoring site following tree removal.



Figure 7.2-13. The monitoring shelter installed at the Blue Ridge site, looking south across Interstate 70.

8. Carbon Monoxide (CO) Monitoring Network

The department has added one near-roadway CO monitor to the network at the Forest Park I-40/64 near-roadway monitoring site (see location map in section 7.1). This monitor will satisfy the minimum near-roadway monitoring requirements for the St. Louis MO-IL CBSA. Changes to CO monitoring requirements were published in the Federal Register: August 31, 2011 (Volume 76, Number 169). These rules require near-roadway CO monitoring at a subset of the near-roadway NO₂ monitoring network in CBSAs with populations of 1 million or more.

The department also intends to add one CO monitor at the Kansas City near-roadway monitoring site. Consult section 7.2 for a discussion about the Kansas City area near-roadway monitoring site.

9. Rural National Core

EPA expressed interest in pursuing the installation and operation of a rural NCore site in Missouri. Department staff suggested EPA evaluate the Mark Twain State Park Site as a candidate for consideration of the rural NCore site due to its location and the historically low PM₁₀ and SO₂ concentrations measured at the site. EPA is considering providing up-front one-time equipment purchases and continued operation and maintenance funds to support this project. Since this project would be in addition to existing NCore monitoring requirements which the state of Missouri has satisfied at the Blair St. site, the department is waiting for EPA to identify specifically what funding will be available for this project before committing resources to the project. The department will continue to work with EPA Region VII staff to pursue this project at some time in the future.

Currently the department is conducting background monitoring for SO₂, PM₁₀, and Ozone for PSD projects at the MTSP site and is also upgrading some of the infrastructure at the site to maintain compliance with siting criteria. This data also provides background ambient air monitoring data for other potential modeling purposes and other analysis.

Network Description/Components

See Appendix 1 for the Network Description, which includes the following components.

Site Data

All ambient air monitoring sites are recorded in the EPA's Air Quality System database. Data includes location data such as latitude & longitude.

Air Quality System Site Code

The site code includes a numerical designation for State, county, and individual site. The state and county codes are assigned a number based on the alphabetical order of the State or county. Site numbers are assigned sequentially by date established in most counties. St. Louis County sites also have a division for municipality within St. Louis County.

Street Address

The official Post Office address of the lot where the monitors are located. Because not all sites are located in cities or towns, the street address is occasionally given as the intersection of the nearest streets or highways.

Geographical Coordinates

The coordinate system used by Missouri Department of Natural Resources is latitude and longitude.

Air Quality Control Region

Air Quality Control Regions, or AQCR, are defined by EPA and designates either urban regions, like St. Louis or Kansas City, or rural sections of a state, such as northeast or southwest Missouri.

<u>AQCR</u>	AQCR Name
070	Metropolitan St. Louis
094	Metropolitan Kansas City
137	Northern Missouri
138	SE Missouri
139	SW Missouri

Core Based Statistical Area

Core Based Statistical Areas, or CBSA are defined by the U.S. Census Bureau.

CBSA Code	CBSA Name
00000	Not in a CBSA
16020	Cape Girardeau-Jackson, MO-IL
17860	Columbia, MO
27620	Jefferson City, MO
27900	Joplin, MO
28140	Kansas City, MO-KS
41140	St. Joseph, MO-KS
41180	St. Louis, MO-IL
44180	Springfield, MO

Monitor Data

Each monitor is designed to detect a specific chemical pollutant or group of related pollutants. A site may have one or many monitors and not all sites will have the same monitors.

Pollutant

The common name of the pollutant. "Criteria" pollutants are defined by statute in the Clean Air Act.

Air Quality System Pollutant Code

Each pollutant has a specific numerical code to distinguish it from others. One monitor in St. Louis City uses a code of '00000' because the monitor detects an entire group of chemicals, volatile organic pollutants, which are too numerous to list individually.

Pollutant CodePollutant00000Volatile Organic Compounds, or VOCs14129Lead – Local Conditions42101Carbon Monoxide42401Sulfur Dioxide42406Sulfur Dioxide 5-min42600Reactive Oxides of N (NOY)42601Nitric Oxide42602Nitrogen Dioxide42603Oxides of Nitrogen44201Ozone61103Resultant Wind Speed61104Resultant Wind Direct62101Outdoor Temperature62107Indoor Temperature62201Relative Humidity63301Solar Radiation
14129 Lead – Local Conditions 42101 Carbon Monoxide 42401 Sulfur Dioxide 42406 Sulfur Dioxide 5-min 42600 Reactive Oxides of N (NOY) 42601 Nitric Oxide 42602 Nitrogen Dioxide 42603 Oxides of Nitrogen 44201 Ozone 61103 Resultant Wind Speed 61104 Resultant Wind Direct 62101 Outdoor Temperature 62107 Indoor Temperature 62201 Relative Humidity
42101 Carbon Monoxide 42401 Sulfur Dioxide 42406 Sulfur Dioxide 5-min 42600 Reactive Oxides of N (NOY) 42601 Nitric Oxide 42602 Nitrogen Dioxide 42603 Oxides of Nitrogen 44201 Ozone 61103 Resultant Wind Speed 61104 Resultant Wind Direct 62101 Outdoor Temperature 62107 Indoor Temperature 62201 Relative Humidity
42401 Sulfur Dioxide 42406 Sulfur Dioxide 5-min 42600 Reactive Oxides of N (NOY) 42601 Nitric Oxide 42602 Nitrogen Dioxide 42603 Oxides of Nitrogen 44201 Ozone 61103 Resultant Wind Speed 61104 Resultant Wind Direct 62101 Outdoor Temperature 62107 Indoor Temperature 62201 Relative Humidity
42600 Reactive Oxides of N (NOY) 42601 Nitric Oxide 42602 Nitrogen Dioxide 42603 Oxides of Nitrogen 44201 Ozone 61103 Resultant Wind Speed 61104 Resultant Wind Direct 62101 Outdoor Temperature 62107 Indoor Temperature 62201 Relative Humidity
42601 Nitric Oxide 42602 Nitrogen Dioxide 42603 Oxides of Nitrogen 44201 Ozone 61103 Resultant Wind Speed 61104 Resultant Wind Direct 62101 Outdoor Temperature 62107 Indoor Temperature 62201 Relative Humidity
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61104 Resultant Wind Direct 62101 Outdoor Temperature 62107 Indoor Temperature 62201 Relative Humidity
61104 Resultant Wind Direct 62101 Outdoor Temperature 62107 Indoor Temperature 62201 Relative Humidity
62107 Indoor Temperature 62201 Relative Humidity
62201 Relative Humidity
•
63301 Solar Radiation
64101 Barometric Pressure
68105 Average Ambient Temperature
68108 Sample Baro Pressure
PM_{10}
84313 Black Carbon
85101 PM ₁₀ - LC
85129 Lead PM10 LC - FRM/FEM
86101 PMCoarse - LC (FRM Diff)
86502 Acceptable PMCoarse - LC
88101 PM _{2.5} FRM
PM _{2.5} Tot Atmospheric
88501 PM _{2.5} Raw Data
PM _{2.5} AQI/Speciation
PM _{2.5} Reference

Parameter Occurrence Code

The Parameter Occurrence Code (POC) distinguishes between different monitors for the same pollutant, most often collocated monitors used for precision and quality assurance. For PM_{2.5}, different parameter occurrence codes are assigned to FRM, collocated FRM, continuous, and speciation monitors.

Collocated

Collocated monitors are used for precision and quality assurance activities, and for redundancy for critical pollutants such as ozone.

Sampling Frequency

Sampling frequency varies for each pollutant, depending on the nature of the NAAQS standard and the technology used in the monitoring method. Most gaseous pollutants, PM_{2.5} and PM₁₀ monitors use continuous monitoring FEM methods and are averaged over one hour. Some particulate pollutants are filter-based FRM methods and averaged over one day.

Scale of Representation

Each monitor is intended to represent an area with similar pollutant concentration. The scales range from only a few meters to many kilometers.

- MIC Microscale defines the concentration in air volumes associated with area dimensions ranging from several meters up to about 100 meters.
- MID Middle defines the concentration typical of areas up to several city blocks in size with dimensions ranging from about 100 meters to 0.5 kilometers.
- Neighborhood defines concentrations within an extended area of a city that has relatively uniform land use with dimensions in the 0.5 to 4.0 kilometers.
- <u>URB</u> <u>Urban</u> defines an overall citywide condition with dimensions on the order of 4 to 50 kilometers.
 - <u>REG</u> <u>Regional</u> defines air quality levels over areas having dimensions of 50 to hundreds of kilometers.

Monitor Type

The monitor's administrative classification as determined by the purpose for the monitor in the agency sampling strategy. Assignment of monitor types "NCORE" and "PAMS" is limited to EPA Headquarters and is done only after a complete review and approval is done for all site/monitor metadata.

Code	<u>Description</u>
IMPROVE	IMPROVE or IMPROVE Protocol
INDEX SITE	(not currently used by MO)
INDUSTRIAL	Used to indicate sites operated by an industry Primary
	Quality Assurance Organization (PQAO)
NATTS	National Air Toxics Trends Station

NON-EPA FEDERAL

(not currently used by MO)

NON-REGULATORY

Not used for NAAQS Compliance

PAMS

(not currently used by MO)

PROPOSED NCORE

OA COLLOCATED

Collocated to Satisfy 40 CFR Part 58, Appendix A

SLAMS

State or Local Air Monitoring Station

SPECIAL PURPOSE

Special Purpose Monitoring Station (SPM or SPMS)

SUPLMNTL SPECIATION

TRENDS SPECIATION

TRIBAL MONITORS UNOFFICIAL PAMS

(not currently used by MO) (not currently used by MO)

State Monitoring Objective

Each monitor has a distinct objective such as providing real-time data for public awareness or use in determining compliance with regulations. The state monitoring objective provides more information about the purpose of the monitoring in addition to the monitor objective required of 40 CFR 58.10(a)(6).

Ctate	Ohiactiva	Code	Objective
State	Uniective	Code	Objective

AQI Public Information
COM NAAQS Compliance
MET Meteorological Data

RES Research STA State Standard

Units

The physical terms used to quantify the pollutant concentration, such as parts per million or micrograms per cubic meter.

Unit Code	Unit Description
001	$\mu g/m^3$
007	parts per million
008	parts per billion
012	miles per hour
013	knots
014	degree, compass
015	degree Fahrenheit
017	degree Celsius
018	Langleys
019	percent humidity
022	inches Mercury
025	Langleys per minute
079	Watts/m ²
105	μg/m³ LC
121	parts per trillion

Monitoring/Analytical Method

Each monitor relies on a scientific principle to determine the pollutant concentration, which is described by the sampling method. Each method code is specific for a particular pollutant; therefore a three numeral code may be used for different methods for different pollutants. This is required of 40 CFR 58.10(a)(3).

Monitoring Objective

This is the primary monitoring objective(s) for the monitoring parameter required of 40 CFR 58.10(a)(6). The monitoring Objective is specific to the pollutant. Some sites may have more than one monitoring objective, but the primary objective is listed first.

APPENDIX 1: MISSOURI MONITORING NETWORK DESCRIPTION

Missouri Ambient Air Monitoring Network



MIC	Microscale	1 to 100 square meters
MID	Middle	0.1 to 0.5 square kilometer
NBR	Neighborhood	0.5 to 4 square kilometers
REG	Regional	> 10 square kilometers, rural
URB	Urban	4 to 50 square kilometers, city
COM	NAAQS Comp	liance
MET	Meteorological	Data
N/A	Not Applicable	
NCore	National Multi	-Pollutant Monitoring Stations
NON-A	Non-Ambient S	Site
NON-R	Non-Regulator	y
RES	Research	
SLAMS	State and Local	Monitoring Stations
SIP	State Implemen	itation Plan
SPEC	Speciation	

State Standard

Special Purpose Monitoring

STA

SPM

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City Utilities

James River South

AQS Site Number **29-077-0037**

James River South, Springfield, MO 65804

Latitude:

37.104461

139 AQCR:

7920

SW Missouri

Longitude:

-93.25339

MSA:

Springfield, MO

Elevation (ft): 1227

Pollutant	AQS Code	Monitor Type		Col	Freq	Scale	State- Obj	Unit- Code	Unit	Method Code	Method	Monitor- Objective
Sulfur Dioxide	42401	Industrial	3		1	MID	СОМ	008	ppb	060	Pulsed Fluorescent	Source Oriented
Sulfur Dioxide Max 5-m Avg	in 42406	Industrial	3		1	MID	СОМ	008	ppb	060	Pulsed Fluorescent	Source Oriented

Wildwood Lane

AQS Site Number 29-077-0040

1234 Wildwood Lane, Springfield, MO 65804

Latitude:

37.108889

AQCR: 139

7920

SW Missouri

Longitude:

-93.252778

MSA:

Springfield, MO

Pollutant	AOS Cada	Monitor		Col	Fuaa	Scale	State-		Unit		Aethod Code	- Method	Monitor- Objective
Foutium	AQS Code	Type	roc	Coi	Trey	Scure	Obj	Code	Onn	-	oue	Memou	Objective
Sulfur Dioxide	42401	Industrial	1		1	MID	СОМ	008	ppb		060	Pulsed Fluorescent	Source Oriented
Sulfur Dioxide Max 5-m Avg	in 42406	Industrial	1		1	MID	СОМ	008	ppb	v	060	Pulsed Fluorescent	Source Oriented

Doe Run Buick

Doe Run Buick - Buick NE

AQS Site Number 29-093-9008

347 Power Lane (Address, Elevation, Lati, and Longi to be confirmed)

Latitude:

37.65214

AQCR: 13

SE Missouri

Longitude:

-91.11689

MSA:

0000

Not in a MSA

Elevation (ft): 1423

		Monitor	_				State-	Unit-		Method	<u>'</u> _	Monitor-
Pollutant	AQS Code	Type	POC	Col	Freq	Scale	Obj	Code	Unit	Code	Method	Objective
Ambient Temperature	68105	Industrial	1		1/6	N/A	СОМ	017	deg C	780	Instrumental	Other
Lead (TSP) - LC FRM/FEM	14129	Industrial	1		1/6	MID	СОМ	105	ug/m^3-LC	113	Doe Run Mass Spectra ICAP	Source Oriented
Sample Baro Pressure	68108	Industrial	1		1/6	N/A	СОМ	059	mm (Hg)	780	Instrumental	Other

Doe Run Buick - North #5

AQS Site Number 29-093-0021

Doe Run Buick - North#5, Buick, MO 65439

Latitude:

37.65178

AQCR: 138

SE Missouri

Longitude:

-91.13094

MSA:

Not in a MSA

Pollutant	AQS Code	Monitor Type		Col	Freq	Scale		Unit- Code		Method- Code	Method	Monitor- Objective
Ambient Temperature	68105	Industrial	1		1/6	N/A	СОМ	017	deg C	780	Instrumental	Other
Lead (TSP) - LC FRM/FEM	14129	Industrial	1		1/6	MID	СОМ	105	ug/m^3-LC	: 113	Doe Run Mass Spectra ICAP	Source Oriented
Sample Baro Pressure	68108	Industrial	1		1/6	N/A	СОМ	059	mm (Hg)	780	Instrumental	Other

Doe Run Buick - South #1

Doe Run Buick - South#1, Buick, MO 65439

Latitude:

37.62400

AQCR: 138

SE Missouri

Longitude:

-91.12827

MSA:

0000

Not in a MSA

		Monitor	_				State-	Unit-		Method	L	Monitor-
Pollutant	AQS Code	Type	POC	Col	Freq	Scale	Obj	Code	Unit	Code	Method	Objective
Ambient Temperature	68105	Industrial	1	✓	1/6	N/A	SIP	017	deg C	780	Instrumental	Other
Lead (TSP) - LC FRM/FEM	14129	Industrial	1	✓	1/6	MID	SIP	105	ug/m^3-LC	113	Doe Run Mass Spectra ICAP	Source Oriented
Sample Baro Pressure	68108	Industrial	1	~	1/6	N/A	SIP	059	mm (Hg)	780	Instrumental	Other

Doe Run Glover

Doe Run Glover - Big Creek #5 (NON-A)

AQS Site Number 29-093-0029

Doe Run Glover - Big Creek #5, Glover, MO 65439

Latitude:

37.471667

AQCR:

0000

SE Missouri

Longitude:

-90.689444

MSA:

Not in a MSA

Elevation (ft):

		Monitor					State-	Unit-		Method	_	Monitor-
Pollutant	AQS Code	Type	POC	Col	Freq	Scale	Obj	Code	Unit	Code	Method	Objective
Ambient Temperature	68105	Industrial	1		1/6	N/A	COM	017	deg C	780	Instrumental	Other
Lead (TSP) - LC FRM/FEM	14129	Industrial	1		1/6	MID	СОМ	105	ug/m^3-LC	110	Pima Co., AZ Mass Spectra ICAP	Source Oriented
Sample Baro Pressure	68108	Industrial	1		1/6	N/A	СОМ	059	mm (Hg)	780	Instrumental	Other

Doe Run Glover - Post Office #2 (NON-A)

AQS Site Number 29-093-0027

Doe Run Glover - Post Office #2, Glover, MO 65439

Latitude:

37.486111

AQCR:

SE Missouri

Longitude:

-90.69

MSA:

0000 Not in a MSA

Elevation (ft):

927

Monitor-**Pollutant** AQS Code Type

State-Unit-Method-Monitor-POC Col Freq Scale Unit Method Code Code **Objective** Obj ~ 780 **Ambient Temperature** 68105 Industrial 1/6 N/A COM 017 deg C Instrumental Other ~ Lead (TSP) - LC 14129 1/6 MID COM 105 ug/m^3-LC 110 Pima Co., AZ Source Industrial FRM/FEM Mass Spectra Oriented ICAP ~ 780 Other Sample Baro Pressure 68108 Industrial 1/6 N/A COM 059 mm (Hg) Instrumental

Doe Run Herculaneum

Herculaneum, Broad Street (NON-A)

AQS Site Number 29-099-9005

847 Broad St., Herculaneum, MO, 63048

Latitude:

38.261667

AQCR: 070

Metropolitan St. Louis

Longitude:

-90.379722

MSA:

7040

St. Louis, MO-IL

Elevation (ft): 500

		Monitor	_				State-	Unit-		Method-		Monitor-
Pollutant	AQS Code	Type	POC	Col	Freq	Scale	Obj	Code	Unit	Code	Method	Objective
Ambient Temperature	68105	Industrial	1		1/6	N/A	SIP	017	deg C	780	Instrumental	Other
Lead (TSP) - LC FRM/FEM	14129	Industrial	1		1/6	MID	SIP	105	ug/m^3-LC	189	Inter-Mountain Lab, Inc Mass Spectra ICAP	Source Oriented
Sample Baro Pressure	68108	Industrial	1		1/6	N/A	SIP	059	mm (Hg)	780	Instrumental	Other

Herculaneum, Church Street (NON-A)

AQS Site Number 29-099-0024

951 Church St., Herculaneum, MO 63048

Latitude:

38.258667

AQCR: 070

Metropolitan St. Louis

Longitude:

-90.380889

MSA:

7040 St. Louis, MO-IL

		Monitor	-				State-	Unit-		Method	<u>'</u> -	Monitor-
Pollutant	AQS Code	Type	POC	Col	Freq	Scale	Obj	Code	Unit	Code	Method	Objective
Ambient Temperature	68105	Industrial	1	V	1/3	N/A	СОМ	017	deg C	780	Instrumental	Other
Lead (TSP) - LC FRM/FEM	14129	Industrial	1	V	1/3	NBR	СОМ	105	ug/m^3-LC	189	Inter-Mountain Lab, Inc Mass Spectra ICAP	Source Oriented
Sample Baro Pressure	68108	Industrial	1	✓	1/3	N/A	СОМ	059	mm (Hg)	780	Instrumental	Other

Herculaneum, City Hall (Mott Street)

AQS Site Number 29-099-0020

Mott Street, Herculaneum, MO, 63048

Latitude:

38.263394

AQCR: 070

Metropolitan St. Louis

Longitude:

-90.379667

MSA:

7040 St. Louis, MO-IL

Elevation (ft):

468

Pollutant	AQS Code	Monitor Type		Col	Freq	Scale	State- Obj	Unit- Code	Unit	Method- Code	Method	Monitor- Objective
Ambient Temperature	68105	Industrial	1	V	1/1	N/A	СОМ	017	deg C	780	Instrumental	Other
Lead (TSP) - LC FRM/FEM	14129	Industrial	1	✓	1/1	MID	СОМ	105	ug/m^3-LC	189	Inter-Mountain Lab, Inc Mass Spectra ICAP	Source Oriented & Highest Concentration
Sample Baro Pressure	68108	Industrial	1	✓	1/1	N/A	сом	059	mm (Hg)	780	Instrumental	Other

Herculaneum, Dunklin High School

AQS Site Number 29-099-9002

1 Black Cat Dr., Herculaneum, MO, 63048

Latitude:

38.267222

AQCR: 070

Metropolitan St. Louis

Longitude:

-90.37833

MSA:

7040

St. Louis, MO-IL

Pollutant	AQS Code	Monitor Type		Col	Freq	Scale	State- Obj	Unit- Code	Unit	Method- Code	Method	Monitor- Objective
Ambient Temperature	68105	Industrial	1		1/3	N/A	СОМ	017	deg C	780	Instrumental	Other
Lead (TSP) - LC FRM/FEM	14129	Industrial	1		1/3	NBR	СОМ	105	ug/m^3-LC	189	Inter-Mountain Lab, Inc Mass Spectra ICAP	Source Oriented & Population Exposure
Sample Baro Pressure	68,108	Industrial	1		1/3	N/A	СОМ	059	mm (Hg)	780	Instrumental	Other

Herculaneum, North Cross

AQS Site Number 29-099-0023

North Cross, Herculaneum, MO 63048

Latitude:

38.263378

AQCR: 070

Metropolitan St. Louis

Longitude:

-90.381122

MSA:

7040

St. Louis, MO-IL

Elevation (ft): 463

		Monitor	_				State-	Unit-		Method-	4	Monitor-
Pollutant	AQS Code	Type	POC	Col	Freq	Scale	Obj	Code	Unit	Code	Method	Objective
Ambient Temperature	68105	Industrial	1		1/1	N/A	СОМ	017	deg C	780	Instrumental	Other
Lead (TSP) - LC FRM/FEM	14129	Industrial	1		1/1	NBR	СОМ	105	ug/m^3-LC	189	Inter-Mountain Lab, Inc Mass Spectra ICAP	Source Oriented & Population Exposure
Sample Baro Pressure	68108	Industrial	1		1/1	N/A	СОМ	059	mm (Hg)	780	Instrumental	Other

Herculaneum, Sherman

AQS Site Number 29-099-9004

460 Sherman St., Herculaneum, MO, 63048

Latitude:

38.2717

AQCR: 07

Metropolitan St. Louis

Longitude:

-90.376520

MSA:

7040

St. Louis, MO-IL

Elevation (ft): 4

Monitor-State-Unit-Method-Monitor-Pollutant AQS Code Type POC Col Freq Scale Code Unit Code Method **Objective** Obj 68105 SPM 1/6 N/A COM 017 deg C 780 Instrumental Other **Ambient Temperature** 14129 1/6 **NBR** COM 105 ug/m^3-LC 189 Inter-Mountain Source Lead (TSP) - LC Industrial Lab, Inc Mass Oriented FRM/FEM Spectra ICAP SPM 1/6 COM 059 780 Other Sample Baro Pressure 68108 N/A mm (Hg) Instrumental

210 Glennon Heights Rd., Crystal City, MO 63019

Latitude:

38.243

AQCR: 070

7040

Metropolitan St. Louis

Longitude:

-90.37372

MSA:

St. Louis, MO-IL

Pollutant	AQS Code	Monitor Type		Col	Freq	Scale	State- Obj	Unit- Code		Method- Code	Method	Monitor- Objective
Ambient Temperature	68105	Industrial	1		1/6	N/A	СОМ	017	deg C	780	Instrumental	Other
Lead (TSP) - LC FRM/FEM	14129	Industrial	1		1/6	NBR	СОМ	105	ug/m^3-LC	189	Inter-Mountain Lab, Inc Mass Spectra ICAP	Source Oriented & Upwind Background
Sample Baro Pressure	68108	Industrial	1		1/6	N/A	СОМ	059	mm (Hg)	780	Instrumental	Other

Environmental Services Program (ESP)

AQS Site Number 29-097-0004

20400 Millwood Rd., Alba, MO 64755

Latitude:

Alba

37.2385

AQCR: 139

SW Missouri

Longitude:

-94.42468

MSA:

Joplin, MO

Elevation (ft): 965

•		Monitor	r-				State-	Unit-		Method	1-	Monitor-
Pollutant	AQS Code	Type	POC	Col	Freq	Scale	Obj	Code	Unit	Code	Method	Objective
Indoor Temperature	62107	SPM	1		1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Ozone	44201	SLAMS	1	✓	1	NBR	СОМ	007	ppm	047	Ultraviolet Photometric	Max Ozone Concentration & Population Exposure

Arnold West

AQS Site Number 29-099-0019

1709 Lonedell Dr., Arnold, MO 63010

Latitude:

38.448581

AQCR: 070

Metropolitan St. Louis

Longitude:

-90.398436

MSA:

7040

St. Louis, MO-IL

Pollutant	AQS Code	Monitor- Type		Col	Freq	Scale	State- Obj	Unit- Code	Unit	Method- Code	Method	Monitor- Objective
Acceptable PM2.5 AQI/SPEC	88502	SPEC	6		1/3	NBR	RES	105	ug/m^3-LC	810	METONE SASS	Population Exposure
Acceptable PMCoarse LC	- 86502	SPM	1 .		1	NBR	СОМ	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Population Exposure
Baro Pressure	64101	SPM	1		1	N/A	MET	059	mm (Hg)	014	Instrumental	Other
Indoor Temperature	62107	SPM	1		1	N/A	MET	017	deg C	013	Electronic Averaging	Other

Outdoor Temperature	62101	SPM	1		1	N/A	MET	017	deg C	040	Electronic Averaging	Other
Ozone	44201	SLAMS	1	✓	1	NBR	СОМ	007	ppm	047	Ultraviolet Photometric	Population Exposure
PM10 - LC	85101	SPM	5		1	NBR	СОМ	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Population Exposure
PM2.5 - LC	88101	SLAMS	4		1	NBR	СОМ	105	ug/m^3-LC	182	FMDS- Gravimetric 1405-DF	Population Exposure
PM2.5 Tot Atmospheric	88500	SPM	1		1	NBR	AQI	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Population Exposure
PM2.5 Volatile Channel	88503	SPM	1		1	NBR	AQI	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Population Exposure
Relative Humidity	62201	SPM	1		1	N/A	MET	019	%humidity	020	Instrumental	Other
Wind Direction - Resultan	t 61104	SPM	1		1	N/A	MET	014	deg	067	Instrumental: RM Young Mod 05103	Other
Wind Speed - Resultant	61103	SPM	1		1	N/A	MET	012	mph	067	Instrumental: RM Young Mod 05103	Other

Bill's Creek

AQS Site Number 29-179-0001

0.75 mile S. of 3229 County Rd., Boss, MO 65440

Latitude:

37.53467

AQCR: 138

SE Missouri

Longitude:

-91.14857

MSA:

0000

Not in a MSA

Pollutant	AQS Code	Monito Type	-	Col	Freq	Scale		Unit- Code	Unit	Method Code	l- Method	Monitor- Objective
Ambient Temperature	68105	SPM	1		1/6	N/A	СОМ	017	deg C	803	Off-Site Avg Temperature	Other

Lead (TSP) - LC FRM/FEM	14129	SLAMS	1	1/6	NBR	COM	105	ug/m^3-LC	192	Inductive Coupled Plasma Spectrometry	Source Oriented
Sample Baro Pressure	68108	SPM	1	1/6	N/A	СОМ	059	mm (Hg)	803	Off-Site Avg Pressure	Other

Blair Street

AQS Site Number **29-510-0085**

3247 Blair Street, St. Louis, MO 63107

Latitude:

38.656449

AQCR: 070

7040

Metropolitan St. Louis

Longitude:

-90.198548

MSA:

St. Louis, MO-IL

Pollutant A	IQS Code	Monitor Type		Col	Freq	Scale	State- Obj	Unit- Code	Unit	Method- Code	Method	Monitor- Objective
Acceptable PM2.5 AQI/SPEC	88502	NCORE	6		1/3	NBR	RES	105	ug/m^3-L0	810	METONE SASS	Population Exposure
Acceptable PMCoarse - LC	86502	SLAMS	1		1	NBR	СОМ	105	ug/m^3-L0	790	FDMS- Gravimetric 1405-DF	Population Exposure
Ambient Temperature	68105	SLAMS	7		1/6	N/A	СОМ	017	deg C	780	Instrumental	Other
Ambient Temperature	68105	SLAMS	3	~	1/3	N/A	СОМ	017	deg C	127	Lo-Vol R&P 2025 Sequential	Other
Ambient Temperature	68105	SLAMS	1	✓	1/1	N/A	СОМ	017	deg C	118	Lo-Vol R&P 2025 Sequential	Other
Baro Pressure	64101	SLAMS	1		1	N/A	MET	059	mm (Hg)	014	Instrumental	Other
Black Carbon PM2.5 STI	P 84313	SLAMS	1		1	NBR	RES	001	ug/m^3	866	Magee Scientific AE21ER	Population Exposure
Carbon Monoxide	42101	NCORE	1		1	NBR	сом	007	ppm	055	Gas Filter Corr Thermo Electron	Population Exposure

Indoor Temperature	62107	SLAMS	1		1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Lead (TSP) - LC FRM/FEM	14129	NCORE	1		1/6	NBR	СОМ	105	ug/m^3-LC	192	Inductive Coupled Plasma Spectrometry	Population Exposure
Nitric Oxide	42601	NCORE	1		1	NBR	СОМ	008	ppb	591	Chemiluminesce nce	Population Exposure
Outdoor Temperature	62101	NCORE	1		1	N/A	MET	017	deg C	040	Electronic Averaging	Other
Ozone	44201	NCORE	1	•	1	NBR	СОМ	007	ppm	047	Ultraviolet Photometric	Population Exposure
PM10 - LC	85101	SLAMS	5		1	NBR	СОМ	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Population Exposure
PM10 - LC	85101	SLAMS	1	~	1/3	NBR	СОМ	105	ug/m^3-LC	127	Lo-Vol R&P 2025 Sequential	Population Exposure
PM10 - Total STP	81102	SLAMS	1	✓	1/3	NBR	СОМ	001	ug/m^3	127	Lo-Vol R&P 2025 Sequential	Population Exposure
PM2.5 - LC	88101	SLAMS	4		1	NBR	СОМ	105	ug/m^3-LC	182	FMDS- Gravimetric 1405-DF	Population Exposure
PM2.5 - LC	88101	NCORE	1	✓	1/1	NBR	СОМ	105	ug/m^3-LC	145	R&P 2025 Sequential w/VSCC	Population Exposure
PM2.5 Tot Atmospheric	88500	SLAMS	1		1	NBR	AQI	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Population Exposure
PM2.5 Volatile Channel	88503	SLAMS	1		1	NBR	AQI	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Population Exposure
PMCoarse - LC (FRM Diff	f) 86101	SLAMS	1	•	1/3	NBR	СОМ	105	ug/m^3-LC	176	Thermo 2025 Sequential PM10-PM2.5	Population Exposure

Reactive Oxides of N (NOY)	42600	NCORE	1		1	NBR	СОМ	800	ppb	591	Chemiluminesce nce	Population Exposure
Relative Humidity	62201	NCORE	1		1	N/A	MET	019	%humidity	020	Instrumental	Other
Sample Baro Pressure	68108	SLAMS	1	✓	1/1	N/A	СОМ	059	mm (Hg)	118	Lo-Vol R&P 2025 Sequential	Other
Sample Baro Pressure	68108	SLAMS	3	✓	1/3	N/A	СОМ	059	mm (Hg)	127	Lo-Vol R&P 2025 Sequential	Other
Sample Baro Pressure	68108	SLAMS	7		1/6	N/A	СОМ	059	mm (Hg)	780	Instrumental	Other
Solar Radiation	63301	SLAMS	1		1	N/A	MET	079	W/m^2	011	Instrumental	Other
Sulfur Dioxide	42401	NCORE	1		1	NBR	СОМ	008	ppb	600	Ultraviolet Fluorenscence API 100 EU	Population Exposure
Sulfur Dioxide Max 5-min Avg	42406	NCORE	1		1	NBR	СОМ	008	ppb	600	Ultraviolet Fluorenscence API 100 EU	Population Exposure
Wind Direction - Resultan	it 61104	NCORE	1		1	N/A	MET	014	deg	065	Instrumental: RM Young Mod 05305	Other
Wind Speed - Resultant	61103	NCORE	1		1	N/A	MET	012	mph	065	Instrumental: RM Young Mod 05305	Other

Blue Ridge I-70

AQS Site Number **29-095-0042**

Site information to be updated once confirmed

Latitude:

39.047911

AQCR: 094

Metropolitan Kansas City

Longitude:

-94.450513

MSA:

3760

Kansas City, MO-KS

Elevation (ft):

Monitor-

State- Unit-

Method-

Monitor-

Pollutant

AQS Code Type

POC Col Freq Scale

Obj Code Unit

Code

Method

Objective

Acceptable PMCoarse - LC	86502	SPM	1	1	MIC	СОМ	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Source Oriented
Baro Pressure	64101	SPM	1	1	N/A	MET	059	mm (Hg)	014	Instrumental	Other
Black Carbon PM2.5 STP	84313	SPM	1	1	MIC	СОМ	001	ug/m^3	866	Magee Scientific AE21ER	Source Oriented
Carbon Monoxide	42101	SLAMS	1	1	MIC	СОМ	007	ppm	054	Non-dispersive Infrared	Source Oriented
Indoor Temperature	62107	SPM	1	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Nitric Oxide	42601	SPM	1	1	NBR	СОМ	008	ppb	074	Chemiluminesce nce	Source Oriented
Nitrogen Dioxide	42602	SLAMS	1	1	MIC	СОМ	008	ppb	074	Chemiluminesce nce	Source Oriented
Outdoor Temperature	62101	SPM	1	1	N/A	MET	017	deg C	040	Electronic Averaging	Other
Oxides of Nitrogen	42603	SPM	1	1	NBR	СОМ	008	ppb	074	Chemiluminesce nce	Source Oriented
PM10 - LC	85101	SPM	5	1	MIC	СОМ	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Source Oriented
PM2.5 - LC	88101	SLAMS	4	1	MIC	СОМ	105	ug/m^3-LC	182	FMDS- Gravimetric 1405-DF	Source Oriented
PM2.5 Tot Atmospheric	88500	SPM	1	1	MIC	AQI	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Source Oriented

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PM2.5 Volatile Channel	88503	SPM	1	1	MIC	AQI	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Source Oriented
Precipitation	65102	SPM	1	1	N/A	MET	021	inches	011	Bucket	Other
Relative Humidity	62201	SPM	1	1	N/A	MET	019	%humidity	020	Instrumental	Other
Solar Radiation	63301	SPM	1	1	N/A	MET	079	W/m^2	011	Instrumental	Other
Wind Direction - Resultant	61104	SPM	1	1	N/A	MET	014	deg	067	Instrumental: RM Young Mod 05103	Other
Wind Speed - Resultant	61103	SPM	1	1 .	N/A	MET	012	mph	067	Instrumental: RM Young Mod 05103	Other

Bonne Terre

AQS Site Number **29-186-0005**

15797 Highway D, Bonne Terre, MO 63628

Latitude:

37.90084

AQCR: 138

0000

SE Missouri

Longitude:

-90.42388

MSA:

Not in a MSA

Pollutant	AQS Code	Monitor Type		Col	Freq	Scale	State- Obj	Unit- Code	Unit	Method- Code	Method	Monitor- Objective
Acceptable PM2.5 AQI/SPEC	88502	SPEC	5		1/6	REG	RES	105	ug/m^3-LC	810	METONE SASS	Upwind background
Indoor Temperature	62107	SPM	1		1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Ozone	44201	SLAMS	1	✓	1	REG	СОМ	007	ppm	047	Ultraviolet Photometric	Regional Transport
Solar Radiation	63301	SPM	1		1	N/A	MET	079	W/m^2	011	Instrumental	Other

Wind Direction - Resultan	t 61104	SPM	1	1	N/A	MET	014	deg	067	Instrumental: RM Other Young Mod 05103
Wind Speed - Resultant	61103	SPM	1	1	N/A	MET	012	mph	067	Instrumental: RM Other Young Mod 05103

Branch Street

AQS Site Number 29-510-0093

100 Branch St., St. Louis, MO 63102

Latitude:

38.65643

AQCR: 070

7040

Metropolitan St. Louis

Longitude:

-90.18977

MSA:

St. Louis, MO-IL

		Monitor	r_				State-	Unit-		Method	_	Monitor-
Pollutant	AQS Code			Col	Freq	Scale	Obj.	Code		Code	Method	Objective
Acceptable PMCoarse LC		SPM	1		1	MID	СОМ	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Source Oriented
Baro Pressure	64101	SPM	1		1	N/A	MET	059	mm (Hg)	014	Instrumental	Other
Indoor Temperature	62107	SPM	1		1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Outdoor Temperature	62101	SPM	1		1	N/A	MET	017	deg C	040	Electronic Averaging	Other
PM10 - LC	85101	SPM	5		1	MID	СОМ	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Source Oriented
PM10 - Total STP	81102	SLAMS	3		1	MID	COM	001	ug/m^3	079	R&P SA246B TEOM	Source Oriented
PM2.5 - LC	88101	SLAMS	4		1	MID	СОМ	105	ug/m^3-LC	182	FMDS- Gravimetric 1405-DF	Source Oriented
PM2.5 Tot Atmospheri	c 88500	SPM	1		1	MID	AQI	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Source Oriented

PM2.5 Volatile Channel	88503	SPM	1	1	MID	AQI	105	ug/m^3-LC	790		Source Oriented
Relative Humidity	62201	SPM	1	1	N/A	MET	019	%humidity	020	Instrumental	Other
Wind Direction - Resultant	61104	SPM	1	1	N/A	MET	014	deg	065	Instrumental: RM Young Mod 05305	Other
Wind Speed - Resultant	61103	SPM	1	1	N/A	MET	012	mph	065	Instrumental: RM Young Mod 05305	Other

Branson

AQS Site Number 29-213-0004

251 SW. Outer Rd., Branson, MO 65616

Latitude:

36.70765

AQCR: 139

SW Missouri

Longitude:

-93.22181

MSA:

0000 Not in a MSA

Elevation (ft):

1052

		Monitor	-				State-	Unit-		Method-		Monitor-
Pollutant	AQS Code	Type	POC	Col	Freq	Scale	Obj	Code	Unit	Code	Method	Objective
Indoor Temperature	62107	SPM	1		1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Ozone	44201	SPM	1	Y	1	NBR	СОМ	007	ppm	047	Ultraviolet Photometric	Max Ozone Concentration & Population Exposure
Wind Direction - Resulta	ant 61104	SPM	1		1	N/A	MET	014	deg	067	Instrumental: RM Young Mod 05103	Other
Wind Speed - Resultant	61103	SPM	1		1	N/A	MET	012	mph	067	Instrumental: RM Young Mod 05103	Other

Buick NE

346 Power Lane, Bixby West, MO 65439

Latitude:

37.65212

AQCR: 138

0000

SE Missouri

Longitude:

-91.11653

MSA:

Not in a MSA

Pollutant A	1QS Code	Monitor Type		Col	Freq	Scale	State- Obj	Unit- Code	Unit	Method- Code	Method	Monitor- Objective
Ambient Temperature	68105	SPM	1	✓	1/1	N/A	СОМ	017	deg C	780	Instrumental	Other
Indoor Temperature	62107	SPM	1		1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Lead (TSP) - LC FRM/FEM	14129	SLAMS	1	✓	1/6	MID	СОМ	105	ug/m^3-L0	192	Inductive Coupled Plasma Spectrometry	Source Oriented & Highest Concentration
Sample Baro Pressure	68108	SPM	1	✓	1/1	N/A	COM	059	mm (Hg)	780	Instrumental	Other
Sulfur Dioxide	42401	SPM	1		1	MID	СОМ	008	ppb .	060	Pulsed Fluorescent	Source Oriented
Sulfur Dioxide Max 5-mir Avg	n 42406	SPM	1		1	MID	СОМ	008	ppb	060	Pulsed Fluorescent	Source Oriented
Wind Direction - Resulta	nt 61104	SPM	1		1	N/A	MET	014	deg	067	Instrumental: RM Young Mod 05103	1 Other
Wind Speed - Resultant	61103	SPM	1		1	N/A	MET	012	mph	067	Instrumental: RN Young Mod 05103	1 Other

Carthage

AQS Site Number 29-097-0003

530 Juniper, Carthage, MO 64836

Latitude:

37.19822

AQCR: 139

3710

SW Missouri

Longitude:

-94.31702

MSA:

Joplin, MO

Elevation (ft): 986

Pollutant 2	AQS Code			Col	Freq	Scale	State- Obj	Code	Unit	Method- Code	Method	Monitor- Objective
Indoor Temperature	62107	SPM	1		1	N/A	MET	017	deg C	013	Electronic Averaging	Other
PM10 - Total STP	81102	SLAMS	3		1	MID	СОМ	001	ug/m^3	079	R&P SA246B TEOM	Source Oriented
Wind Direction - Resulta	nt 61104	SPM	1		1	N/A	MET	014	deg	067	Instrumental: RM Young Mod 05103	Other
Wind Speed - Resultant	61103	SPM	1		, 1	N/A	MET	012	mph	067	Instrumental: RM Young Mod 05103	Other

El Dorado Springs

AQS Site Number 29-039-0001

Highway 97 & Barnes Road, El Dorado Springs, MO 64744

Latitude:

37.70097

AQCR: 139

SW Missouri

Longitude:

-94.03474

MSA:

0000 N

Not in a MSA

Pollutant	AQS Code	Monitor Type		Col	Freq	Scale	State- Obj	Unit- Code	Unit	Method Code	l- Method	Monitor- Objective
Acceptable PMCoarse LC	- 86502	SPM	1		1	REG	СОМ	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Regional Transport
Baro Pressure	64101	SPM	1		1	N/A	MET	059	mm (Hg)	014	Instrumental	Other
Indoor Temperature	62107	SPM	1		1	N/A	MET	017	deg C	013	Electronic Averaging	Other

Outdoor Temperature	62101	SPM	1	1	N/A	MET	017	deg C	040	Electronic Averaging	Other
Ozone	44201	SLAMS	1	1	REG	СОМ	007	ppm	047	Ultraviolet Photometric	Regional Transport
PM10 - LC	85101	SPM	5	1	REG	СОМ	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Regional Transport
PM2.5 - LC	88101	SLAMS	4	1	REG	СОМ	105	ug/m^3-LC	182	FMDS- Gravimetric 1405-DF	Regional Transport
PM2.5 Tot Atmospheric	88500	SPM	1	1	REG	AQI	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Regional Transport
PM2.5 Volatile Channel	88503	SPM	1	1	REG	AQI	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Regional Transport
Relative Humidity	62201	SPM	1	1	N/A	MET	019	%humidity	020	Instrumental	Other
Wind Direction - Resultant	61104	SPM	1	1	N/A	MET	014	deg	067	Instrumental: RM Young Mod 05103	Other
Wind Speed - Resultant	61103	SPM	1	1	N/A	MET	012	mph	067	Instrumental: RM Young Mod 05103	Other

Farrar

AQS Site Number **29-157-0001**

County Rd. 342, Farrar, MO 63746

Latitude:

37.70264

AQCR:

138

SE Missouri

Longitude:

-89.698640

MSA:

0000

Not in a MSA

		Monito	r-				State-	Unit-		Method	!-	Monitor-
Pollutant	AQS Code	Type	POC	Col	Freq	Scale	Obj	Code	Unit	Code	Method	Objective
Indoor Temperature	62107	SPM	1		1	N/A	MET	017	deg C	013	Electronic Averaging	Other

Ozone	44201	SLAMS	1	✓	1	NBR	COM	007	ppm	047	Ultraviolet Photometric	Max Ozone Concentration & Extreme Downwind
Wind Direction - Resultan	nt 61104	SPM	1		1	N/A	MET	014	deg	067	Instrumental: RM Young Mod 05103	Other
Wind Speed - Resultant	61103	SPM	1		1	N/A	MET	012	mph	067	Instrumental: RM Young Mod 05103	Other

Fellows Lake

AQS Site Number 29-077-0042

4208 E. Farm Rd. 66, Springfield, MO 65803

Latitude:

37.319444

AQCR: 139

SW Missouri

Longitude:

-93.204444

MSA:

Springfield, MO 7920

Elevation (ft):

1346

Bieration (19)												
		Monitor	r_				State-	Unit-		Method-		Monitor-
Pollutant	AQS Code	Type	POC	Col	Freq	Scale	Obj	Code	Unit	Code	Method	Objective
Indoor Temperature	62107	SPM	1		1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Ozone	44201	SLAMS	1	✓	1	URB	СОМ	007	ppm	047	Ultraviolet Photometric	Max Ozone Concentration & Population Exposure
Wind Direction - Results	ant 61104	SPM	1		1	N/A	MET	014	deg	067	Instrumental: RM Young Mod 05103	Other
Wind Speed - Resultant	61103	SPM	1		1	N/A	MET	012	mph	067	Instrumental: RM Young Mod 05103	Other

Finger Lakes

AQS Site Number 29-019-0011

1505 E. Peabody Road, Columbia, MO 65202

Latitude:

39.07803

-92.31632

AQCR: 137

Northern Missouri

Longitude:

MSA:

Columbia, MO

Elevation (ft): 726

Monitor-

State- Unit-

Method-

Monitor-

Pollutant

1740

POC Col Freq Scale

Obj

Unit

Code

Method

AQS Code Type

Code

Objective

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Indoor Temperature	62107	SPM	1		1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Ozone	44201	SLAMS	1	V	1	NBR	СОМ	007	ppm	047	Ultraviolet Photometric	Max Ozone Concentration & Population Exposure
Fletcher									AQS	Site Nun	nber 29-17 9	-0002
Forest Rd. 223	6, Westfork,	MO 644	98									
Latitude:	37.46889	AQCR:	138	SE N	Missouri							
Longitude:	-91.08847	MSA:	0000	Not i	in a MSA							
Elevation (ft):	1256											
Pollutant	AQS Code	Monitor Type	POC	Col	Freq	Scale	State- Obj	Unit- Code	Unit	Method- Code	Method	Monitor- Objective
Ambient Temperate	ure 68105	SPM	1		1/6	N/A	СОМ	017	deg C	803	Off-Site Avg Temperature	Other
Lead (TSP) - LC FRM/FEM	14129	SLAMS	1		1/6	NBR	СОМ	105	ug/m^3-LC	192	Inductive Coupled Plasma Spectrometry	Source Oriented
Sample Baro Press	sure 68108	SPM	1		1/6	N/A	СОМ	059	mm (Hg)	803	Off-Site Avg Pressure	Other
Folev	Falou MO	62247							AQS	Site Nun	nber 29-11 3	-0003
#7 Wild Horse	•		137	Nort	hern Mis	souri						
Latitude:	39.0447	AQCR:	7040		ouis, MC							
Longitude:	-90.8647	MSA:	7040	Ot. 1	Jours, IVIC) IL						
Elevation (ft):	715						_					
Pollutant	AQS Code	Monitor Type		Col	Freq	Scale	State- Obj	Unit- Code	Unit	Method- Code	Method	Monitor- Objective
Indoor Temperature		SPM	1		1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Ozone	44201	SLAMS	. 1	V	1	NBR	СОМ	007	ppm	047	Ultraviolet Photometric	Extreme Downwind

Tuesday, May 21, 2013

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Wind Direction - Resulta	ant 61104	SPM	1		1	N/A	MET	014	deg	067	Instrumental: RM Other Young Mod 05103
Wind Speed - Resultant	61103	SPM	1		1	N/A	MET	012	mph	067	Instrumental: RM Other Young Mod 05103
Forest City, E	xide Lev	ree							AQS S	ite Nun	aber 29-087-0008
300 S. Washingto			54473			-					
Latitude: 40.	027222	AQCR:	137	Norther	n Misso	ouri					

Elevation (ft):

Ambient Temperature

-95.235833

68105

Longitude:

Monitor-State-Unit-Method-Monitor-Pollutant AQS Code Type POC Col Freq Scale Code Unit Code Method **Objective** Obj Off-Site Avg Ambient Temperature SPM 3 N/A COM 017 803 Other 68105 1/6 deg C Temperature

1/6 105 Thermo/R&P Lead PM10 LC -85129 SPM MID COM ug/m^3-LC 811 Source FRM/FEM 2025 PM10 Oriented

N/A

COM

017

deg C

Sample Baro Pressure 68108 SPM ~ 1/6 N/A COM 059 mm (Hg) 811 Thermo/R&P Other 2025 PM10

Sample Baro Pressure 68108 SPM 1/6 N/A COM 059 mm (Hg) 803 Off-Site Avg Other Pressure

Forest Park

AQS Site Number 29-510-0094

McKinley Dr., St. Louis, MO 63110

Latitude: 38.631057

AQCR:

070

0000

MSA:

SPM

Not in a MSA

~

1/6

Metropolitan St. Louis

Longitude:

-90.281144

MSA:

7040

St. Louis, MO-IL

000 Elevation (ft):

Monitor-

Method-

811

Thermo/R&P

2025 PM10

Other

Monitor-

Pollutant

AQS Code Type

POC Col Freq Scale

State- Unit-Obi Code

Unit

Code

Method

Objective

Tuesday, May 21, 2013

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Acceptable PMCoarse - LC	86502	SPM	1	1	MIC	СОМ	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Source Oriented
Baro Pressure	64101	SPM	1	1	N/A	MET	059	mm (Hg)	014	Instrumental	Other
Black Carbon PM2.5 STP	84313	SPM	1	1	MIC	СОМ	001	ug/m^3	866	Magee Scientific AE21ER	Source Oriented
Carbon Monoxide	42101	SLAMS	1	1	MIC	СОМ	007	ppm	054	Non-dispersive Infrared	Source Oriented
Indoor Temperature	62107	SPM	1	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Nitric Oxide	42601	SPM	1	1	NBR	СОМ	008	ppb	074	Chemiluminesce nce	Source Oriented
Nitrogen Dioxide	42602	SLAMS	1	1	MIC	СОМ	008	ppb	074	Chemiluminesce nce	Source Oriented
Outdoor Temperature	62101	SPM	1	1	N/A	MET	017	deg C	040	Electronic Averaging	Other
Oxides of Nitrogen	42603	SPM	1	1	NBR	СОМ	008	ppb	074	Chemiluminesce nce	Source Oriented
PM10 - LC	85101	SPM	5	1	MIC	СОМ	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Source Oriented
PM2.5 - LC	88101	SLAMS	4	1	MIC	СОМ	105	ug/m^3-LC	182	FMDS- Gravimetric 1405-DF	Source Oriented
PM2.5 Tot Atmospheric	88500	SPM	1	1	MIC	AQI	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Source Oriented

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PM2.5 Volatile Channel	88503	SPM	1	1	MIC	AQI	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Source Oriented
Precipitation	65102	SPM	1	1	N/A	MET	021	inches	011	Bucket	Other
Relative Humidity	62201	SPM	1	1	N/A	MET	019	%humidity	020	Instrumental	Other
Wind Direction - Resultan	t 61104	SPM	1	1	N/A	MET	014	deg	067	Instrumental: RM Young Mod 05103	Other
Wind Speed - Resultant	61103	SPM	1	1	N/A	MET	012	mph	067	Instrumental: RM Young Mod 05103	Other

Front Street (PM10:TEOM to replace Lo-Vol)

AQS Site Number 29-095-0018

1331 N. Jackson, Kansas City, MO 64120

Latitude:

39.13198

AQCR: 094

3760

Metropolitan Kansas City

Longitude:

-94.53128

MSA:

Kansas City, MO-KS

Pollutant	AQS Code	Monitor Type		Col	Freq	Scale	State- Obj	Unit- Code	Unit	Method- Code	Method	Monitor- Objective
Ambient Temperature	68105	SPM	1		1/6	N/A	СОМ	017	deg C	127	Lo-Vol R&P 2025 Sequential	Other
PM10 - Total STP	81102	SLAMS	3		1	NBR	СОМ	001	ug/m^3	079	R&P SA246B TEOM	Highest Concentration & Population Exposure
Sample Baro Pressure	68108	SPM	1		1/6	N/A	СОМ	059	mm (Hg)	127	Lo-Vol R&P 2025 Sequential	Other

Glover

AQS Site Number 29-093-0033

Highway 49, approx. 0.4m South Highways 21/49/72 Intersection, Glover, 63620

138

0000

Latitude:

37.48964

AQCR:

SE Missouri

Longitude:

-90.69247

MSA:

Not in a MSA

Elevation (ft): 881

Pollutant	AQS Code	Monitor Type		Col	Freq	Scale	State- Obj	Unit- Code		Method- Code	Method	Monitor- Objective
Ambient Temperature	68105	SPM	1		1/6	N/A	СОМ	017	deg C	803	Off-Site Avg Temperature	Other
Lead (TSP) - LC FRM/FEM	14129	SLAMS	1		1/6	NBR	СОМ	105	ug/m^3-LC	192	Inductive Coupled Plasma Spectrometry	Source Oriented
Sample Baro Pressure	68108	SPM	1		1/6	N/A	СОМ	059	mm (Hg)	803	Off-Site Avg Pressure	Other

Herculaneum, Dunklin High School

AQS Site Number 29-099-0005

1 Black Cat Dr., Herculaneum, MO, 63048

Latitude:

38.267222

AQCR:

Metropolitan St. Louis

Longitude:

-90.37833

MSA:

070 7040

St. Louis, MO-IL

Elevation (ft): 445

Method-Monitor-Monitor-State-Unit-Pollutant AQS Code Type **POC** Col Freq Scale Obj Code Unit Code Method **Objective** SPM N/A deg C 780 Instrumental Other 68105 1 1/3 COM 017 Ambient Temperature 1/3 **NBR** 192 Lead (TSP) - LC 14129 COM 105 ug/m^3-LC Inductive Source SLAMS FRM/FEM Coupled Plasma Oriented & Population Spectrometry Exposure Sample Baro Pressure 68108 SPM 1/3 N/A COM 059 mm (Hg) 780 Instrumental Other

Herculaneum, Mott Street

Mott Street, Herculaneum, MO, 63048

Latitude:

38.263394

AQCR: 070

7040

Metropolitan St. Louis

Longitude:

-90.379667

MSA:

St. Louis, MO-IL

Pollutant	AQS Code	Monitor- Type		Col	Freq	Scale	State- Obj	Unit- Code	Unit	Method- Code		Monitor- Objective
Ambient Temperature	68105	SPM	1	✓	1/1	N/A	СОМ	017	deg C	780	Instrumental	Other
Indoor Temperature	62107	SPM	1		1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Lead (TSP) - LC FRM/FEM	14129	SLAMS	1	✓	1/1	MID	СОМ	105	ug/m^3-LC	192	Inductive Coupled Plasma Spectrometry	Source Oriented & Highest Concentration
Sample Baro Pressure	68108	SPM	1	✓	1/1	N/A	СОМ	059	mm (Hg)	780	Instrumental	Other
Sulfur Dioxide	42401	SLAMS	1		1	MID	СОМ	008	ppb	060	Pulsed Fluorescent	Source Oriented & Highest Concentration
Sulfur Dioxide Max 5-mi Avg	in 42406	SPM	1		1	MID	СОМ	008	ppb	060	Pulsed Fluorescent	Source Oriented & Highest Concentration
Wind Direction - Results	ant 61104	SPM	1		1	N/A	MET	014	deg	067	Instrumental: RM Young Mod 05103	Other
Wind Speed - Resultant	61103	SPM	1		1	N/A	MET	012	mph	067	Instrumental: RM Young Mod 05103	Other

Herculaneum, Sherman

AQS Site Number 29-099-0013

460 Sherman St., Herculaneum, MO, 63048

Latitude:

38.27171

AQCR: 070

Metropolitan St. Louis

Longitude:

-90.376520

MSA:

7040 St. Louis, MO-IL

Elevation (ft): 462

		Monitor	-				State-	Unit-		Method-		Monitor-
Pollutant	AQS Code	Type	POC	Col	Freq	Scale	Obj	Code	Unit	Code	Method	Objective
Ambient Temperature	68105	SPM	1		1/3	N/A	COM	017	deg C	780	Instrumental	Other
Lead (TSP) - LC FRM/FEM	14129	SLAMS	1		1/3	NBR	СОМ	105	ug/m^3-LC	192	Inductive Coupled Plasma Spectrometry	Source Oriented
Sample Baro Pressure	68108	SPM	1		1/3	N/A	СОМ	059	mm (Hg)	780	Instrumental	Other

Hillcrest High School

AQS Site Number 29-077-0036

3319 N. Grant, Springfield, MO 65803

Latitude:

37.256069

AQCR: 139

SW Missouri

Longitude:

-93.299692

MSA:

7920 Springfield, MO

Elevation (ft): 1

1321

Pollutant	AQS Code	Monitor Type		Col	Freq	Scale	State- Obj	Unit- Code	Unit	Method Code	l- Method	Monitor- Objective
Indoor Temperature	62107	SPM	1		1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Ozone	44201	SLAMS	1	v	1	URB	СОМ	007	ppm	047	Ultraviolet Photometric	Population Exposure

73 Hunter Ave., Ladue, MO 63124

Latitude:

38.65021

AQCR: 070

7040

Metropolitan St. Louis

Longitude:

-90.35036

MSA:

St. Louis, MO-IL

		Monitor	·_				State-	Unit-	1	Method-	_	Monitor-
Pollutant A	QS Code			Col	Freq	Scale	Obj	Code		Code		Objective
Acceptable PMCoarse - LC	86502	SPM	1		1	NBR	СОМ	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Population Exposure
Baro Pressure	64101	SPM	1		1	N/A	MET	059	mm (Hg)	014	Instrumental	Other
Indoor Temperature	62107	SPM	1		1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Outdoor Temperature	62101	SPM	1		1	N/A	MET	017	deg C	040	Electronic Averaging	Other
PM10 - LC	85101	SPM	5		1	NBR	СОМ	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Population Exposure
PM2.5 - LC	88101	SLAMS	4		1	NBR	СОМ	105	ug/m^3-LC	182	FMDS- Gravimetric 1405-DF	Population Exposure
PM2.5 Tot Atmospheric	88500	SPM	1		1	NBR	AQI	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Population Exposure
PM2.5 Volatile Channel	88503	SPM	1		1	NBR	AQI	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Population Exposure
Relative Humidity	62201	SPM	1		1	N/A	MET	019	%humidity	020	Instrumental	Other
Wind Direction - Resulta	nt 61104	SPM	1		1	N/A	MET	014	deg	067	Instrumental: RM Young Mod 05103	Other

Wind Speed - Resultant 61103 SPM 1 1 N/A MET 012 mph 067 Instrumental: RM Other Young Mod 05103

Liberty

AQS Site Number 29-047-0005

Highway 33 & County Home Rd., Liberty, MO 64068

Latitude:

39.303056 -94.376389 AQCR: 094

Metropolitan Kansas City

Longitude:

MSA:

3760

Kansas City, MO-KS

Pollutant	AQS Code	Monitor Type	POC	Col	Freq	Scale	State- Obj	Unit- Code	Unit	Method- Code	Method	Monitor- Objective
Acceptable PM2.5 AQI/SPEC	88502	SPEC	5		1/3	NBR	RES	105	ug/m^3-LC	810	METONE SASS	Population Exposure
Acceptable PMCoarse LC	- 86502	SPM	1		1	NBR	СОМ	105	ug/m^3-L0	790	FDMS- Gravimetric 1405-DF	Population Exposure
Baro Pressure	64101	SPM	1		1	N/A	MET	059	mm (Hg)	014	Instrumental	Other
Indoor Temperature	62107	SPM	1		1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Outdoor Temperature	62101	SPM	1		1	N/A	MET	017	deg C	040	Electronic Averaging	Other
Ozone	44201	SLAMS	1	✓	1	NBR	СОМ	007	ppm	047	Ultraviolet Photometric	Population Exposure
PM10 - LC	85101	SPM	5		1	NBR	СОМ	105	ug/m^3-L0	790	FDMS- Gravimetric 1405-DF	Population Exposure
PM2.5 - LC	88101	SLAMS	4		1	NBR	СОМ	105	ug/m^3-L0	C 182	FMDS- Gravimetric 1405-DF	Population Exposure
PM2.5 Tot Atmospheri	c 88500	SPM	1		1	NBR	AQI	105	ug/m^3-L0	790	FDMS- Gravimetric 1405-DF	Population Exposure

PM2.5 Volatile Channel	88503	SPM	1	1	NBR	AQI	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Population Exposure
Relative Humidity	62201	SPM	1	1	N/A	MET	019	%humidity	020	Instrumental	Other
Solar Radiation	63301	SPM	1	1	N/A	MEŢ	079	W/m^2	011	Instrumental	Other
Wind Direction - Resultan	t 61104	SPM	1	1	N/A	MET	014	deg	067	Instrumental: RM Young Mod 05103	Other
Wind Speed - Resultant	61103	SPM	1	1	N/A	MET	012	mph	067	Instrumental: RM Young Mod 05103	Other

Margaretta

AQS Site Number **29-510-0086**

4520 Margaretta, St. Louis, MO 63105

Latitude:

38.673172

AQCR: 070

Metropolitan St. Louis

Longitude:

-90.239086

MSA:

7040

St. Louis, MO-IL

Pollutant	AQS Code	Monitor Type		Col	Freq	Scale	State- Obj	Unit- Code	Unit	Method- Code	Method	Monitor- Objective
Indoor Temperature	62107	SPM	1		1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Nitric Oxide	42601	SPM	1		1	NBR	СОМ	008	ppb	074	Chemiluminesce nce	Population Exposure
Nitrogen Dioxide	42602	SLAMS	1		1	NBR	СОМ	008	ppb	074	Chemiluminesce nce	Population Exposure
Oxides of Nitrogen	42603	SPM	1		1	NBR	СОМ	008	ppb	074	Chemiluminesce nce	Population Exposure
PM10 - Total STP	81102	SLAMS	3		1	NBR	СОМ	001	ug/m^3	079	R&P SA246B TEOM	Population Exposure

Sulfur Dioxide	42401	SLAMS	1	1	NBR	COM	800	ppb	060	Pulsed Fluorescent	Population Exposure
Sulfur Dioxide Max 5-min Avg	42406	SLAMS	1	1	NBR	СОМ	008	ppb	060	Pulsed Fluorescent	Population Exposure

Mark Twain State Park

AQS Site Number **29-137-0001**

20057 State Park Office Rd., Stoutville, MO 65283

Latitude:

39.47510

AQCR: 137

Northern Missouri

Longitude:

-91.78899

MSA:

0000 Not

Not in a MSA

Pollutant A	1QS Code	Monitor Type		Col	Freq	Scale	State- Obj	Unit- Code	Unit	Method- Code		Monitor- Objective
Indoor Temperature	62107	SPM	1		1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Ozone	44201	SLAMS	1		1	REG	СОМ	007	ppm	047	Ultraviolet Photometric	General/Back ground
PM10 - Total STP	81102	SPM	3		1	REG	SIP	001	ug/m^3	079	R&P SA246B TEOM	General/Back ground
Sulfur Dioxide	42401	SPM	1		1	NBR	СОМ	008	ppb	060	Pulsed Fluorescent	General/Back ground
Sulfur Dioxide Max 5-mir Avg	n 42406	SPM	1		1	NBR	СОМ	008	ppb	060	Pulsed Fluorescent	General/Back ground
Wind Direction - Resulta	nt 61104	SPM	1		1	N/A	MET	014	deg	067	Instrumental: RM Young Mod 05103	Other
Wind Speed - Resultant	61103	SPM	1		1	N/A	MET	012	mph	067	Instrumental: RM Young Mod 05103	Other

13044 Marine Ave., Maryland Heights, MO 63146

Latitude:

38.7109

AQCR: 070

Metropolitan St. Louis

Longitude:

-90.4759

MSA:

7040 St. Louis, MO-IL

Elevation (ft): 633

Pollutant A	QS Code	Monitor Type		Col	Freq	Scale	State- Obj	Unit- Code	Unit	Method- Code	Method	Monitor- Objective
Indoor Temperature	62107	SPM	1		1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Outdoor Temperature	62101	SPM	1		1	N/A	MET	015	deg F	040	Electronic Averaging	Other
Ozone	44201	SLAMS	1	~	1	NBR	СОМ	007	ppm	047	Ultraviolet Photometric	Population Exposure
Wind Direction - Resultar	nt 61104	SPM	1		1	N/A	MET	014	deg	065	Instrumental: RM Young Mod 05305	Other
Wind Speed - Resultant	61103	SPM	1		1	N/A	MET	012	mph	065	Instrumental: RM Young Mod 05305	Other

Missouri State University (PM10:TEOM to replace Lo-Vol) AQS Site Number 29-077-0032

710 S. Holland St. at Madison St., Springfield, MO 65806

Latitude:

37.199473

AQCR: 139

7920

SW Missouri

Longitude:

-93.284681

MSA:

Springfield, MO

Pollutant	AQS Code	Monito Type	-	Col	Freq	Scale	State- Obj	Unit- Code		Method Code	- Method	Monitor- Objective
Acceptable PMCoarse LC	- 86502	SPM	1		1	NBR	СОМ	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Population Exposure
Ambient Temperature	68105	SPM	3		1/6	N/A	СОМ	017	deg C	127	Lo-Vol R&P 2025 Sequential	Other

SPM N/A MET 012 067 Instrumental: RM Other Wind Speed - Resultant 61103 mph Young Mod 05103 AQS Site Number 29-179-0034 Oates 13155 Highway KK, Boss, MO 65440 AQCR: SE Missouri Latitude: 37.56485 0000 Not in a MSA MSA: Longitude: -91.11423 1134 Elevation (ft): State-Unit-Method-Monitor-Monitor-AQS Code POC Col Freq Scale Unit Method Pollutant Type Obj Code Code **Objective Ambient Temperature** 68105 SPM 1/6 N/A COM 017 deg C 803 Off-Site Avg Other Temperature Lead (TSP) - LC 14129 1/6 NBR COM 105 ug/m^3-LC 192 Inductive SLAMS 1 Source Coupled Plasma Oriented FRM/FEM Spectrometry SPM 1/6 N/A COM 059 803 Off-Site Avg Other Sample Baro Pressure 68108 mm (Hg) Pressure Orchard Farm AQS Site Number 29-183-1004 2165 Highway V, St. Charles, MO 63301 Metropolitan St. Louis AQCR: Latitude: 38.8994 St. Louis, MO-IL 7040 Longitude: MSA: -90.44917 Elevation (ft): Monitor-State-Unit-Method-Monitor-Pollutant AQS Code POC Col Freq Scale Unit Method **Objective** Type Code Code Obj 62107 SPM N/A MET 017 013 Electronic Other Indoor Temperature deg C Averaging 44201 **V** URB 047 Ultraviolet COM 007 Extreme Ozone SLAMS ppm **Photometric** Downwind

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AQS Site Number 29-189-0005

Pacific

18701 Old Highway 66, Pacific, MO 63039

Latitude:

38.4902

AQCR: 070

7040

Metropolitan St. Louis

Longitude:

-90.7052

MSA:

St. Louis, MO-IL

Elevation (ft): 524

Pollutant A	IQS Code	Monitor Type		Col	Freq	Scale	State- Obj	Unit- Code	Unit	Method- Code	Method	Monitor- Objective
Indoor Temperature	62107	SPM	1		1,	N/A	MET	017	deg C	013	Electronic Averaging	Other
Outdoor Temperature	62101	SPM	1		1	N/A	MET	017	deg C	040	Electronic Averaging	Other
Ozone	44201	SLAMS	1	✓	1	NBR	СОМ	007	ppm	047	Ultraviolet Photometric	Population Exposure
Wind Direction - Resulta	nt 61104	SPM	1		1	N/A	MET	014	deg	067	Instrumental: RM Young Mod 05103	Other
Wind Speed - Resultant	61103	SPM	1		1	N/A	MET	012	mph	067	Instrumental: RM Young Mod 05103	Other

Park Hills

AQS Site Number 29-187-0006

105 Industrial Dr., Park Hills, MO 63601

Latitude:

37.86485

AQCR: 138

SE Missouri

Longitude:

-90.50804

MSA:

0000 Not in a MSA

Pollutant	AQS Code	Monitor Type		Col	Freq	Scale	State- Obj	Unit- Code	Unit	Method Code	Method	Monitor- Objective
Ambient Temperature	68105	SPM	1		1/6	N/A	СОМ	017	deg C	803	Off-Site Avg Temperature	Other
Lead (TSP) - LC FRM/FEM	14129	SPM	1		1/6	NBR	СОМ	105	ug/m^3-LC	192	Inductive Coupled Plasma Spectrometry	Population Exposure

Baro Pressure	64101	SPM	1	1	N/A	MET	059	mm (Hg)	014	Instrumental	Other
Indoor Temperature	62107	SPM	1	1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Outdoor Temperature	62101	SPM	1	1	N/A	MET	017	deg C	040	Electronic Averaging	Other
PM10 - LC	85101	SPM	5	1	NBR	СОМ	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Population Exposure
PM10 - Total STP	81102	SLAMS	3	1	NBR	СОМ	001	ug/m^3	079	R&P SA246B TEOM	Population Exposure
PM10 - Total STP	81102	SLAMS	1	1/6	NBR	СОМ	001	ug/m^3	127	Lo-Vol R&P 2025 Sequential	Population Exposure
PM2.5 - LC	88101	SLAMS	4	1	NBR	СОМ	105	ug/m^3-LC	182	FMDS- Gravimetric 1405-DF	Population Exposure
PM2.5 Tot Atmospheric	88500	SPM	1	1	NBR	AQI	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Population Exposure
PM2.5 Volatile Channel	88503	SPM	1 .	1	NBR	AQI	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Population Exposure
Relative Humidity	62201	SPM	1	1	N/A	MET	019	%humidity	020	Instrumental	Other
Sample Baro Pressure	68108	SPM	3	1/6	N/A	СОМ	059	mm (Hg)	127	Lo-Vol R&P 2025 Sequential	Other

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New Bloomfield

AQS Site Number 29-027-0002

2625 Meadow Lake View, New Bloomfield, MO, 65063

Latitude:

38.70608

AQCR: 137

Northern Missouri

Longitude:

-92.09308

MSA:

Not in a MSA

Elevation (ft): 860

Pollutant	4QS Code	Monitor- Type		Col	Freq	Scale	State- Obj	Unit- Code	Unit	Method- Code	Method	Monitor- Objective
Indoor Temperature	62107	SPM	1		1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Ozone	44201	SLAMS	1	V	1	NBR	СОМ	007	ppm	047	Ultraviolet Photometric	Max Ozone Concentration & Population Exposure
Wind Direction - Resulta	int 61104	SPM	1		1	N/A	MET	014	deg	067	Instrumental: RM Young Mod 05103	Other
Wind Speed - Resultant	61103	SPM	1		1	N/A	MET	012	mph	067	Instrumental: RM Young Mod 05103	Other

Oakville

AQS Site Number 29-189-0015

6115 Frontenac Pointe Ct., Oakville, MO 63129

Latitude:

38.45671

AQCR:

Metropolitan St. Louis

Longitude:

-90.327477

MSA:

7040

St. Louis, MO-IL

Pollutant	AQS Code	Monitor Type		Col	Freq	Scale	State- Obj	Unit- Code	Unit	Method- Code		Monitor- Objective
Indoor Temperature	62107	SPM	1		1	N/A	MET	017	deg C	013	Electronic Averaging	Other
PM10 - Total STP	81102	SLAMS	3		1	MID	СОМ	001	ug/m^3	079	R&P SA246B TEOM	Source Oriented & Population Exposure
Wind Direction - Results	ant 61104	SPM	1		1	N/A	MET	014	deg	067	Instrumental: RM Young Mod 05103	Other

803 Other Sample Baro Pressure 68108 SPM 1/6 N/A COM 059 mm (Hg) Off-Site Avg Pressure AQS Site Number 29-099-0009 Pevelv 500 Dow Industrial Dr., Pevely, MO 63070 Metropolitan St. Louis AOCR: Latitude: 38.2861 7040 St. Louis, MO-IL MSA: Longitude: -90.38094 409 Elevation (ft): State-Unit-Method-Monitor-Monitor-Pollutant AQS Code POC Col Freq Scale Unit Method Code Code Objective Type Obj Ambient Temperature 68105 SPM 1/6 N/A COM 017 deg C 780 Instrumental Other ug/m^3-LC Lead (TSP) - LC 14129 SLAMS 1/6 **NBR** COM 105 192 Inductive Source Coupled Plasma Oriented FRM/FEM Spectrometry Sample Baro Pressure 68108 SPM 1/6 N/A COM 059 mm (Hg) 780 Instrumental Other Pevely North AQS Site Number 29-099-0026 Tiarre at the Abbey, Station 150N, Christine Drive, Pevely, MO 63070 AQCR: 070 Metropolitan St. Louis Latitude: 38.296 St. Louis, MO-IL 7040 Longitude: -90.393 MSA: 582 Elevation (ft): Method-Monitor-Monitor-State-Unit-**POC** Unit Pollutant AQS Code Col Freq Scale Code Code Method **Objective** Type Obj **Ambient Temperature** 68105 SPM 1/6 N/A COM 017 deg C 780 Instrumental Other Lead (TSP) - LC 14129 1/6 **NBR** COM 105 ug/m^3-LC 192 Inductive SLAMS 1 Source Coupled Plasma FRM/FEM Oriented Spectrometry 1/6 N/A 780 Other 68108 SPM COM 059 mm (Hg) Instrumental Sample Baro Pressure Page 39 of 49 Tuesday, May 21, 2013

Richards Gebaur - South

1802 E. 203rd Street, Belton, MO, 64012

Latitude:

38.75976

AQCR: 094

Metropolitan Kansas City

Longitude:

-94.57997

MSA:

Kansas City, MO-KS

		Monitor					State-			Method		Monitor-
Pollutant	AQS Code	Type	POC	Col	Freq	Scale	Obj	Code	Unit	Code	Method	Objective
Acceptable PMCoarse LC	- 86502	SPM	1		1	NBR	СОМ	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Population Exposure
Baro Pressure	64101	SPM	1		1	N/A	MET	059	mm (Hg)	014	Instrumental	Other
Indoor Temperature	62107	SPM	1		1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Outdoor Temperature	62101	SPM	1		1	N/A	MET	017	deg C	040	Electronic Averaging	Other
Ozone	44201	SLAMS	1	✓	1	NBR	СОМ	007	ppm	047	Ultraviolet Photometric	Population Exposure
PM10 - LC	85101	SPM	5		1	NBR	СОМ	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Population Exposure
PM2.5 - LC	88101	SLAMS	4		1	NBR	СОМ	105	ug/m^3-LC	182	FMDS- Gravimetric 1405-DF	Population Exposure
PM2.5 Tot Atmospheric	c 88500	SPM	1		1	NBR	AQI	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Population Exposure
PM2.5 Volatile Channe	el 88503	SPM	1		1	NBR	AQI	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Population Exposure
Relative Humidity	62201	SPM	1		1	N/A	MET	019	%humidity	020	Instrumental	Other

11796 Highwood Highwo	39.9544 -94.849 1120	AQC MSA	CR: 137 4: 7000	St	hern Mis Joseph, M		State- Obj	Unit- Code	Unit	Method- Code	Method	Monitor- Objective
Latitude: Longitude:	39.9544 -94.849	AQC	CR: 137									
Latitude:	39.9544	AQC	CR: 137									
Ü	•	-		Nort	hern Mis	souri						
11796 Highw	ay 71, Sav	vaiman, iv										
		vannah M	10 64485	5								
avannah	with the same of t								AQ	S Site Nun	nber 29-00 3	-0001
											Young Mod 05103	
Wind Speed - Res	ultant 611	03 SPM	1 1		1	N/A	MET	012	mph	067	Instrumental: RM	Other
Wind Direction - Ro	esultant 611	04 SPM	1 1		1	N/A	MET	014	deg	067	Instrumental: RM Young Mod 05103	Other
Ozone	442	01 SLA	MS 1	✓	1	NBR	СОМ	007	ppm	047	Ultraviolet Photometric	Population Exposure
											Averaging	
ndoor Temperatur	re 621	07 SPM	1 1		1	N/A	MET	017	deg C	013	Electronic	Other
Pollutant	AQS (Mon Code Type	iitor- e POC	. Col	Freq	Scale	State- Obj	Unit- Code	Unit	Method- Code	Method	Monitor- Objective
Elevation (ft):	993											
Longitude:	-94.5806	MSA	4: 3760	Kan	sas City,	MO-KS						
Latitude:	39.33188	AQC	CR: 094	Metr	opolitan	Kansas C	City					
13131 Highwa		E., Smith	ville, MO	6408	9							
Rocky Cree	k								AO	S Site Nun	nber 29-047	-0006
Wind Speed - Resi	ultant 611	03 SPM	1 1		1	N/A	MET	012	mph	067	Instrumental: RM Young Mod 05103	Other
Wind Direction - Re	esultant 611	04 SPM	1 1		1	N/A	MET	014	deg	067	Instrumental: RM Young Mod 05103	Other

Wind Direction - Resultant	61104	SPM	1	1	N/A	MET	014	deg	067	Instrumental: RM Other Young Mod 05103
Wind Speed - Resultant	61103	SPM	1	1	N/A	MET	012	mph	067	Instrumental: RM Other Young Mod 05103

South Broadway

AQS Site Number **29-510-0007**

8227 South Broadway, St. Louis, MO 63111

Latitude:

38.5425

AQCR: 070

Metropolitan St. Louis

Longitude:

-90.263611

MSA:

7040 St. Louis, MO-IL

Pollutant	AQS Code	Monitor Type	r- POC	Col	Freq	Scale	State- Obj	Unit- Code		Method Code		Monitor- Objective
Acceptable PMCoarse LC	- 86502	SPM	1		1	NBR	СОМ	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Population Exposure
Baro Pressure	64101	SLAMS	1		1	N/A	MET	059	mm (Hg)	014	Instrumental	Other
Indoor Temperature	62107	SPM	1		1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Outdoor Temperature	62101	SPM	1		1	N/A	MET	017	deg C	040	Electronic Averaging	Other
PM10 - LC	85101	SPM	5		, 1	NBR	СОМ	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Population Exposure
PM2.5 - LC	88101	SLAMS	4		1	NBR	СОМ	105	ug/m^3-LC	182	FMDS- Gravimetric 1405-DF	Population Exposure
PM2.5 Tot Atmospheri	c 88500	SPM	1		1	NBR	AQI	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Population Exposure
PM2.5 Volatile Channe	el 88503	SPM	1		1	NBR	AQI	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Population Exposure

SPM N/A MET 019 %humidity 020 Other Relative Humidity 62201 Instrumental South Charleston AOS Site Number 29-077-0026 5012 S. Charleston, Springfield, MO 65804 SW Missouri AQCR: Latitude: 37.122561 Springfield, MO 7920 MSA: Longitude: -93.263161 1234 Elevation (ft): Monitor-Unit-Method-Monitor-State-AQS Code POC Unit Method Pollutant Col Freq Scale Code Code **Objective** Type Obi Indoor Temperature 62107 SPM N/A MET 017 deg C 013 Electronic Other Averaging **V** NBR COM 800 060 Pulsed Source Sulfur Dioxide 42401 SLAMS 1 ppb Oriented Fluorescent **NBR** COM 008 060 Pulsed Sulfur Dioxide Max 5-min 42406 SLAMS Source ppb Fluorescent Oriented Avg St. Joe State Park AQS Site Number 29-187-0007 2800 Pimville Rd., Park Hills, MO 63601 SE Missouri Latitude: 37.81413 AQCR: 0000 Not in a MSA Longitude: MSA: -90.50738 Elevation (ft): Monitor-State-Unit-Method-Monitor-POC Col Freq Scale Unit Method **Objective** Pollutant AQS Code Code Code Type Obj SPM N/A COM 017 803 Off-Site Avg Other **Ambient Temperature** 68105 1 1/3 deg C Temperature Lead (TSP) - LC 14129 SPM 1/3 **NBR** COM 105 ug/m^3-LC 192 Inductive Population 1 Coupled Plasma Exposure FRM/FEM Spectrometry 803 SPM 1/3 N/A COM 059 mm (Hg) Off-Site Avg Other Sample Baro Pressure 68108 Pressure Page 43 of 49 Tuesday, May 21, 2013

St. Joseph Pump Station

S. Highway 759, St. Joseph, MO 64501

Latitude:

39.741667

AQCR: 094

7000

Metropolitan Kansas City

Longitude:

-94.858333

MSA:

St. Joseph, MO

		Monito	r_				State-	Unit-		Method	_	Monitor-
Pollutant	AQS Code		POC	Col	Freq	Scale	Obj	Code		Code	Method	Objective
Acceptable PMCoarse	86502	SPM	1	✓	1	NBR	СОМ	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Population Exposure
Ambient Temperature	68105	SPM	3	✓	1/3	N/A	СОМ	017	deg C	127	Lo-Vol R&P 2025 Sequential	Other
Baro Pressure	64101	SPM	1	✓	1	N/A	MET	059	mm (Hg)	014	Instrumental	Other
Indoor Temperature	62107	SPM	1		1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Outdoor Temperature	62101	SPM	1		1	N/A	MET	017	deg C	040	Electronic Averaging	Other
PM10 - LC	85101	SPM	1	•	1/3	NBR	СОМ	105	ug/m^3-LC	127	Lo-Vol R&P 2025 Sequential	Population Exposure
PM10 - LC	85101	SPM	5	•	1	NBR	СОМ	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Population Exposure
PM10 - Total STP	81102	SLAMS	1	✓	1/3	NBR	СОМ	001	ug/m^3	127	Lo-Vol R&P 2025 Sequential	Population Exposure
PM2.5 - LC	88101	SLAMS	4	✓	1	NBR	СОМ	105	ug/m^3-LC	182	FMDS- Gravimetric 1405-DF	Population Exposure
PM2.5 Tot Atmospheric	88500	SPM	1	✓	1	NBR	AQI	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Population Exposure

PM2.5 Volatile Channel	88503	SPM	1	•	1	NBR	AQI	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Population Exposure
Relative Humidity	62201	SPM	1	✓	1	N/A	MET	019	%humidity	020	Instrumental	Other
Sample Baro Pressure	68108	SPM	3	✓	1/3	N/A	СОМ	059	mm (Hg)	127	Lo-Vol R&P 2025 Sequential	Other

Trimble

AQS Site Number 29-049-0001

7536 SW. O Highway, Trimble, MO 64492

Latitude:

39.5306

AQCR: 137

Northern Missouri

Longitude:

-94.556

MSA:

3760

Kansas City, MO-KS

955 Elevation (ft):

Pollutant	AQS Code	Monitor- Type		Col	Freq	Scale	State- Obj	Unit- Code	Unit	Method- Code	Method	Monitor- Objective
Indoor Temperature	62107	SPM	1		1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Ozone	44201	SLAMS	1	V	1	NBR	СОМ	007	ppm	047	Ultraviolet Photometric	Max Ozone Concentration
Wind Direction - Resulta	ant 61104	SPM	1		1	N/A	MET	014	deg	067	Instrumental: RM Young Mod 05103	Other
Wind Speed - Resultant	61103	SPM	1		1	N/A	MET	012	mph	067	Instrumental: RM Young Mod 05103	Other

Troost 724 Troost (Rear), Kansas City, MO 64106

Latitude:

39.104722

AQCR:

Metropolitan Kansas City

Longitude:

-94.570556

MSA:

Kansas City, MO-KS

Elevation (ft):

Monitor-

State- Unit-

Method-

Monitor-

Pollutant

AQS Code Type

3760

Code

Method

POC Col Freq Scale

Code

Unit

AQS Site Number 29-095-0034

Objective

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Acceptable PMCoarse - LC	86502	SPM	1		1	NBR	СОМ	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Population Exposure
Ambient Temperature	68105	SPM	1		1/1	N/A	СОМ	017	deg C	118	Lo-Vol R&P 2025 Sequential	Other
Ambient Temperature	68105	SPM	3		1/6	N/A	СОМ	017	deg C	127	Lo-Vol R&P 2025 Sequential	Other
Baro Pressure	64101	SPM	1		1	N/A	MET	059	mm (Hg)	014	Instrumental	Other
Indoor Temperature	62107	SPM	1		1 .	N/A	MET	017	deg C	013	Electronic Averaging	Other
Nitric Oxide	42601	SPM	1		1	URB	СОМ	008	ppb	074	Chemiluminesce nce	Population Exposure
Nitrogen Dioxide	42602	SLAMS	1		1	URB	СОМ	008	ppb	074	Chemiluminesce nce	Population Exposure
Outdoor Temperature	62101	SPM	1		1	N/A	MET	017	deg C	040	Electronic Averaging	Other
Oxides of Nitrogen	42603	SPM	1		1	URB	СОМ	008	ppb	074	Chemiluminesce nce	Population Exposure
PM10 - LC	85101	SPM	1		1/6	NBR	СОМ	105	ug/m^3-LC	127	Lo-Vol R&P 2025 Sequential	Population Exposure
PM10 - LC	85101	SPM	5		1	NBR	СОМ	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Population Exposure
PM10 - Total STP	81102	SLAMS	1		1/6	NBR	СОМ	001	ug/m^3	127	Lo-Vol R&P 2025 Sequential	Population Exposure
PM2.5 - LC	88101	SLAMS	4	✓	1	NBR	СОМ	105	ug/m^3-LC	182	FMDS- Gravimetric 1405-DF	Population Exposure

PM2.5 Tot Atmospheric	88500	SPM	1	1	NBR	AQI	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Population Exposure
PM2.5 Volatile Channel	88503	SPM	1	1	NBR	AQI	105	ug/m^3-LC	790	FDMS- Gravimetric 1405-DF	Population Exposure
Relative Humidity	62201	SPM	1	1	N/A	MET	019	%humidity	020	Instrumental	Other
Sample Baro Pressure	68108	SPM	3	1/6	N/A	СОМ	059	mm (Hg)	127	Lo-Vol R&P 2025 Sequential	Other
Sample Baro Pressure	68108	SPM	1	1/1	N/A	СОМ	059	mm (Hg)	118	Lo-Vol R&P 2025 Sequential	Other
Sulfur Dioxide	42401	SLAMS	1	1	MID	СОМ	008	ppb	060	Pulsed Fluorescent	Source Oriented
Sulfur Dioxide Max 5-min Avg	42406	SLAMS	1	1	MID	СОМ	008	ppb	060	Pulsed Fluorescent	Source Oriented

Ursuline North

AQS Site Number 29-099-0025

210 Glennon Heights Rd., Crystal City, MO 63019

Latitude:

38.243

AQCR: 070

Metropolitan St. Louis

Longitude:

-90.37372

MSA:

7040

St. Louis, MO-IL

Pollutant	AQS Code	Monitor Type		Col	Freq	Scale		Unit- Code	Unit	Method- Code	Method	Monitor- Objective
Ambient Temperature	68105	SPM	1		1/6	N/A	COM	017	deg C	780	Instrumental	Other
Lead (TSP) - LC FRM/FEM	14129	SLAMS	1		1/6	NBR	СОМ	105	ug/m^3-LC	C 192	Inductive Coupled Plasma Spectrometry	Source Oriented & Upwind Background
Sample Baro Pressure	68108	SPM	1		1/6	N/A	СОМ	059	mm (Hg)	780	Instrumental	Other

Watkins Mill State Park

AQS Site Number 29-047-0003

Watkins Mill Road, Lawson, MO 64062

Latitude:

39.407419

AQCR: 094

3760

Metropolitan Kansas City

Longitude:

-94.265142

1009

MSA:

Kansas City, MO-KS

Elevation (ft):

		Monito	r-				State-	Unit-		Method	<u>'</u> -	Monitor-
Pollutant	AQS Code	Type	POC	Col	Freq	Scale	Obj	Code	Unit	Code	Method	Objective
Indoor Temperature	62107	SPM	1		1	N/A	MET	017	deg C	013	Electronic Averaging	Other

URB

COM

007

ppm

West Alton

AQS Site Number 29-183-1002

Ultraviolet

Photometric

Extreme

Downwind

047

General Elecric Store, Highway 94, West Alton, MO 63386

Latitude:

Ozone

38.8725

AQCR: 070

SLAMS

Metropolitan St. Louis

Longitude:

-90.226389

44201

MSA:

7040

St. Louis, MO-IL

Pollutant	AQS Code	Monitor Type		Col	Freq	Scale	State- Obj	Unit- Code	Unit	Method Code	Method	Monitor- Objective
Indoor Temperature	62107	SPM	1		1	N/A	MET	017	deg C	013	Electronic Averaging	Other
Outdoor Temperature	62101	SPM	1		1	N/A	MET	017	deg C	040	Electronic Averaging	Other
Ozone	44201	SLAMS	1	✓	1	URB	СОМ	007	ppm	047	Ultraviolet Photometric	Max Ozone Concentration & Population Exposure
Solar Radiation	63301	SPM	1		1	N/A	MET	079	W/m^2	011	Instrumental	Other
Wind Direction - Result	ant 61104	SPM	1		1	N/A	MET	014	deg	067	Instrumental: RM Young Mod 05103	Other

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